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Virtual Schools in the U.S. 2015:

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 2014 legislative session, building on our earlier work detailing the 2012 and 2013 sessions. We asked whether legislatures have been moving closer to or further from core recommendations advanced in this NEPC series. Our analysis revealed that state legislatures have proposed bills that attempt to increase

oversight of virtual schools; however, we found little evidence to indicate that legislative actions are being informed by the emerging research on virtual schools.

Recommendations arising from Section I are for policymakers to:

- 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.

- 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.

- Define new certification training and relevant teacher licensure requirements 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.

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

Policymakers continue to struggle to reconcile traditional funding structures, governance and accountability systems, instructional quality, and staffing demands with the unique organizational models and instructional methods associated with virtual schooling. State legislatures are beginning to respond, as evidenced by proposed bills that attempt to increase oversight of virtual schools; however, as we discuss below, fewer than 30% of proposed bills have been enacted. In addition, there is little evidence to support the view that legislative actions are informed by the emerging research on virtual schools.

This first section of the report will revisit the critical policy issues that we introduced in the 2013 and 2014 reports, specifically:

- Finance and governance

- Instructional program quality

- High-quality teachers.

In the 2013 report we defined these critical policy areas and presented the emerging research evidence; then, in the 2014 report we shifted our focus to the legislative actions that illustrate how states are addressing evolving virtual school models. Last year's legislative analysis, which examined all proposed and enacted virtual school legislation in 50 states from 2012 and 2013, serves as a baseline for a new comprehensive analysis of all virtual school legislation introduced in 2014. In addition, we draw on 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.

Comprehensive Analysis of 2014 Legislation

Our comprehensive analysis of all proposed and enacted virtual school legislation in 50 states during the 2014 legislative session employed 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 nearly 1,400 bills in 2014, with nearly every state considering legislation. 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 2014, 131 bills were considered

in 36 states; 38 were enacted, 62 failed and 31 are pending (see Appendix A, which provides a comprehensive listing as well as summaries of bills relevant to our concerns). In 2013, 127 bills were considered in 25 states; 29 were enacted, 7 failed and 92 are pending. In 2012, 128 bills were considered in 31 states; 41 were enacted and 87 failed. The raw number of bills introduced, then, has remained comparable in recent years. However, analysis of a third legislative session provides a richer understanding of how legislators are promoting, revising and curbing evolving virtual school models as compared to previous years. In addition, a third year of legislative analysis allowed us to track whether legislative trends are moving closer to or further from core recommendations advanced in this NECP report series.

In 2014, myriad bills on virtual schooling touched on a wide range of proposals. Some were relatively narrow, as in a proposal to exempt virtual schools from providing transportation services and to prohibit them from receiving transportation funding (OK S1463). Others were more general. For example, four states proposed pilot programs or task forces on virtual schools to test the development of virtual schools (NC, NY, TN, CO), and others moved to link funding to actual costs and to promote increased accountability of instructional time and program quality (IL, MI, MO, VA, AZ, FL, ME). Three states (FL, MI, MO) showed the most legislative activity, with eight or more bills proposed in each. Our analysis, however, focused on the substance of bills across all states rather than relative activity within individual states.

Two important trends to note in 2014 legislative activity are: 1) proposed legislation calling for the creation of state-run virtual schools, or establishing rules for the operation of district sponsored virtual schools (AL, GA, ME); and 2) the creation of task forces or pilot programs to explore the development of virtual schooling options (NC, NY, TN, CO). For example, in Maine (ME S689) the state legislature supported a proposal to create a state-run virtual academy, but the governor vetoed it. A bill proposing a state-run virtual school in Georgia also failed. In Alabama, four failed bills (AL S428; AL H479; AL S345; AL S 428) attempted to authorize the creation of virtual public schools. Tennessee (TN H1810) proposed state grants to support the creation of blended learning programs, but that bill also failed. North Carolina (NC S744), however, enacted a proposal to create two pilot K-12 virtual charter schools. In New Jersey (NJ S989) and New York (NY A9110) proposals to create task forces to explore the expansion of both blended and full-time virtual programs are pending. And in Colorado (CO HB1283), a task force was created to oversee authorizers of multi-district online schools, as well as to explore the creation of quality standards and practices for virtual school authorizers.

Finance and Governance

Identifying funding, governance and accountability mechanisms associated with operating virtual schools continues to be a challenge for policymakers and practitioners. Table 1.1 reintroduces the policy issues, assumptions and empirical questions related to virtual school finance and governance. Below, we update earlier information based on new research and introduce policy issues that have surfaced since our 2014 report.

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 EMOs earning through the operation of virtual schools? • What is the relationship between profits and quality instruction?

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 ties funding allocation directly to virtual schools' actual costs and operating expenditures.

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.

Activity in 2014 indicates that legislation has been introduced and—in some instances passed—that revises virtual school funding. This suggests a growing awareness among state policymakers that virtual school funding is an area that requires serious consideration. For example, in attempts to align funding with actual costs of operating a virtual school, Illinois (IL H 5887, pending) has proposed withholding funds from virtual schools for costs associated with operating a traditional school, including building maintenance, classroom supplies, transportation, safety and security. In Michigan, two pending bills have targeted reduced per-pupil allocations for virtual charter schools. One (MI H 5695) has proposed limiting state aid appropriations to 50% of foundation allowances, and the second (MI H5845) has proposed limiting state aid appropriations to one-third of foundation allowances. (Michigan's current basic allowance for students in traditional schools is $8,099.) In Missouri (MO S522), a failed bill proposed limiting allocations for non-district students attending virtual schools to 72.5% of the previous year's statewide average expenditure per average daily attendance ($6,716 in 2013-14). And finally, in Virginia (VA HB324) a pending bill has proposed limiting funding for virtual school students: 1) by restricting local revenue allocations to no more than 76%, and 2) by capping total state and local allocations to no more than $6,500 per student.

Several states (AZ, FL, & ME) have also called for virtual school funding based on continuous enrollment. For example, a failed proposal in Maine (ME H1189) would have provided per-pupil revenue for students in virtual schools based on continuous enrollment, disbursing 50% after the October 1st attendance count, and the remaining 50% after the April 1st attendance count.

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 (IL, MI, MO, VA, 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 three years, several state legislatures have 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.

State audits of virtual school operations are an important mechanism for addressing accountability challenges unique to virtual schools. For example, in 2014, Utah undertook a comprehensive audit of its distance and online education programs, prompted by numerous citizen complaints about inadequate LEA supervision of programs operated by contractors.[1] It found that many LEAs across the state engaged in minimal oversight of online programs they managed, or their hired contractors managed, across a wide range of governance responsibilities. For example, several LEAs operating virtual schools were unable to produce records linked to students' attendance and performance. Some LEA-operated virtual programs used progress-based monitoring of student attendance, instead of the strict 10 day rule which requires schools to drop students from attendance logs after 10 consecutive days of unexcused absences. Several LEAs failed to ensure that contractors' courses and curriculum aligned with Utah Core Standards and to verify that teachers delivering specific courses held appropriate Utah licenses.

Similar violations were found for contractor-managed programs. For example, the audit described evidence that in "numerous instances" students who made no progress for more than 10 days remained in enrolled status, allowing the contractors to continue collecting funding.[2] Contractors were also allowed to hire the entire teaching staff of a virtual school without LEA oversight—which could have ensured staffing by licensed and qualified teachers. And lastly, several LEAs failed to monitor the quality of contractor-provided courses or instruction, including services to home schooled students. Home school courses do not qualify for state funding under Utah state law[3]; however, several contractors (including Harmony Education Services and My Tech High Inc.) either provided curriculum or allowed home school parents to design their own curriculum. The contractors then offered parents reimbursement of up to $300 for curriculum they purchased, and billed the LEA for these services.[4] Harmony Education Services and My Tech High Inc. collected $10.5 million in state revenues during 2013-14, for claiming they served 2,547 full-time students enrolled through the LEAs they serve as contractors. The questionable practices of contractors that the auditors discovered led them to speculate that "[i]f even 10% of the courses or membership days claimed by the LEAs were deemed out of compliance with state law and Board rule, it could result in a little over $1 million in potential questioned costs."[5]

The audit's authors advanced very specific recommendations for how LEAs might increase oversight of both the virtual programs that they operate and those that contractors operate. However, a review of the five bills relating to virtual schools proposed in the Utah State Legislature indicates that none reflected the audit's recommendations for improved regulatory oversight.

Below, we outline how other states are attempting to address similar accountability challenges linked to virtual schools.

Governance: There is evidence that some states are approaching virtual school accountability challenges methodically. Legislation that calls for moratoriums, task forces and commissions charged with wider assessment and evaluation of virtual learning models has been introduced in eight states (CO HB1283, IL H3937, ME S689, NC S744, NJ S989, NY A9110, RI H7755, TN H1810). Only three of eight states enacted legislation in this domain in 2014 (CO, IL & NC), while five bills in other states either failed or are pending.

A new trend apparent in 2014 legislation is evident in proposals addressing oversight of virtual school authorizers, virtual school operators, and contractors or subcontractors hired to manage virtual schools and provide other services. Several proposals require performance-based accountability of online education providers. For example, a pending proposal in Michigan (MI H5917) requires any entity applying to be a virtual school of excellence (charter school) to demonstrate adequate experience in the delivery of a quality online educational program. In addition, the proposal limits the number of virtual charter schools statewide to 15 beginning in 2015. In Arizona (AZ H2315), a failed proposal would have required all new online providers to operate on probationary status for up to 3 years or until they could demonstrate students' academic improvement. Another failed proposal in Arizona (AZ H2555) would have withheld full funding to online course providers until a student demonstrated full mastery of the course content through a department of education approved assessment: under the provision, schools would get 50% of the funding for their students who completed courses with a grade of C-minus or better, with the remaining 50% of funding to be distributed only after students had demonstrated mastery. In Oklahoma (OK SB1663), another failed proposal suggested terminating a virtual charter school contract if a school "received a letter grade of 'D' or lower for three (3) consecutive years or . . .received a letter grade of 'F' for two (2) consecutive years." Colorado (CO HB1383), meanwhile, enacted a bill to convene a task force that will be assigned to review best practices for authorizing and administering multi-district virtual schools and to develop recommendations for quality standards and practices for authorizers.

Enrollment limits and boundaries: Monitoring which virtual schools are providing substantive education services to which students requires delineating enrollment zones and addressing 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.

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 (including ME, IL, NJ, RI), following a trend observed in 2013 legislation. The moratorium proposals range from a 3-year restriction on new virtual charter schools enacted in Rhode Island (NC S744, pending) to an enacted Illinois proposal (IL H3937,) that extends a 2013 virtual charter school moratorium in Chicago (IL H 494) to other districts. In Maine (ME S689), a proposal to create a state-run virtual academy included a moratorium on all virtual charter schools and other virtual public schools until the state-run virtual program

was operational. The governor vetoed the bill. And in New Jersey (NJ S989) a pending proposal would restrict the establishment of new virtual charter schools until the Virtual Charter School Task Force releases its findings.

Our analysis also revealed that Iowa, Missouri and Arkansas have proposed steps to limit overall statewide enrollment of students in virtual schools. Iowa (IA S2044) would cap statewide student enrollment in online programs to not more than 0.18% of all statewide enrollment, and Missouri (MO SB522) would cap student enrollment of nonresident students in virtual charter and other public schools to 1.75% of the total statewide enrollment. And in Arkansas (AR SB48), a virtual charter school is allowed a maximum total student enrollment of 3,000 students. Of these three proposals, only the Arkansas bill was enacted.

In California, an enacted bill will suspend the requirement that virtual charter school students be residents of a county sharing a contiguous border with the virtual school's home county—but only for students who originally reside within geographic boundaries and then move outside them. Students would be allowed to continue their enrollment after moving "for the duration of courses or until the end of the school year, whichever comes first."

The bills outlined in this section offer examples of 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. Overall, our analysis indicates that efforts to study virtual school governance issues in order to inform policy changes via task forces or commissions are moving forward in at least two states. Charged with identifying best practices for governance and delivery of online instruction, the publicly funded task forces and commissions may yield important information for policymakers and practitioners. We will continue to monitor and highlight developments in our future reports.

Eliminating Profiteering by Education Management Organizations

In 2014, legislators in several states responded to the complicated accountability issues and public controversies linked to for-profit education management organizations (EMOs) providing products and services to virtual schools—including software and curriculum, instructional delivery, school management, and governance. Virtual schools that have contracts with for-profit EMOs serve more 70% percent of full-time virtual school students.[6] K12 Inc. continues to be the largest of the for-profit virtual school providers, operating 99 schools and serving approximately 98,806 students in 2014—more than one-third of the estimated 263,705 full-time virtual school students in the U.S. K12 Inc. profits in 2014 were a net $55.1 million and total revenues exceeded $919 million,[7] compared to 2013 net profit of $45.7 million and total revenues of over $848.2 million.[8] K12 Inc. was again the target of a securities lawsuit, filed in January, 2014 by the Oklahoma Firefighters Pension and Retirement System, which claims that K12Inc. misled investors by publishing positive financial statements that were inconsistent with lower earnings revealed in later months.[9] 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.

Pennsylvania continues to be at the forefront in attempts to address profiteering by for-profit and nonprofit virtual charter school operators. In 2013, ten bills aimed at curbing profiteering were proposed (more than any other state), but none of the bills were enacted. In 2014, a pending bill (PA H2237) addresses several controversial practices of for-profit virtual charter school operators. For example, some profit from leasing buildings from companies owned by the charter operator; some withhold records acquired or produced under their contracts from public audits. The pending bill: restricts charter school administrators and board members from receiving payment for the rental or lease of a building a charter school uses; restricts charter school administrators from receiving payments from other charter schools or a company that manages or provides services to other charter schools; and restricts charter schools from using buildings "owned by the charter school or a related nonprofit organization, charter school foundation or educational management service provider, including the educational management service provider's administrators or executives or family member of the educational management service provider's administrators or executives." Lastly, the bill requires that any record "produced, obtained or maintained by an educational managed service provider for a charter school under a contract or agreement with a charter school must be readily available to an auditor and investigator and shall be subject to disclosure under the…Right-to-Know Law."

While legislative proposals aimed at curbing profiteering by for-profit virtual charter school operators have not been successful over the last several years, other efforts by state officials have. Specifically, in January, 2014 the Pennsylvania Department of Education rejected all applicants that proposed to open new full-time virtual charter schools, marking the second consecutive year that all new virtual charter school applications were denied; 14 new applications in all were denied over two years.[10] The rejections were based on the department's concern that that the "purportedly independent boards of five of the six proposed schools were too closely tied to the for profit companies poised to receive contracts from the new schools if charters were granted."[11]

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, and eliminate profiteering. Given evidence detailed above, we reiterate our recommendations in the 2014 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 and 2014 reports 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.[12] Here, we again review and update our earlier assertions. Table 1.2 reintroduces issues, assumptions and questions relevant to instructional quality.

Evaluating the Quality of Curricula

Virtual instruction holds the promise of efficient, highly individualized instruction, reaching students who seek access to quality courses. Online education has been referred to as a "disruptive innovation"[13] and, as has occurred with other disruptive innovations before it, the industry is at the intersection of a growth explosion and a legislative gap. According to one estimate, "extrapolated revenue growth for [the online learning sector] increased from $73 million to $178 million between the 2010-11 and 2011-12 school years."[14] Perhaps to comply with 21st century learning standards that require technological literacy, some states (Michigan, Alabama, West Virginia, Florida and Virginia)[15] now require students to complete at least one online course to graduate, while other states encourage schools to buy digital content rather than textbooks. For example, enacted legislation in North Carolina (NC S 744) states that "Funds appropriated for Digital Learning pursuant to subsection (e) of this section shall be used to support grants to local education agencies (LEAs) for (i) delivering educator professional development focused on using digital and other instructional technologies to provide high-quality, integrated digital teaching and learning to all students and (ii) acquiring quality digital content to enhance 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

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?

have difficulty ensuring quality content in the current, highly decentralized environment. While growth in the online industry may serve many students who currently lack access to required, remedial or advanced courses, it leaves states scrambling to understand the trends and to provide proper guidance and legislation. Further, it leaves students, parents and schools uncertain as to the quality of the plethora of online courses. Like curricula in traditional schools, online curricula should be aligned with a designated set of standards to ensure that students' individualized online learning experiences provide all the information and skills policymakers deem essential. In the 2014 report, we speculated that the centralized Common Core State Standards (CCSS) might be an equalizer to improve authorizers' ability to evaluate curricula. 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 might simplify development and evaluation. However, of the 45 states that originally adopted the standards between 2010 and 2011 for implementation by 2015, a legislative scan in 2014 yields at least nine separate bills across seven states aimed at repealing or restricting Common Core implementation. Indiana, Oklahoma and Wisconsin have already repealed or significantly limited Common Core implementation while similar legislation is pending in Ohio. Therefore, the speculation that the Common Core standards

might provide a consistent source by which to evaluate online curricula for all states no longer appears viable.

In the 2014 report, we presented data from the International Association for K12 Online Learning (iNACOL) indicating that states are starting to review online courses to determine alignment with standards and other elements of course quality. For example, Texas has completed this process using the *iNACOL National Standards for Quality Online Courses*,[16] which provide a starting point for assessing internally developed and externally acquired course content. In 2013, states such as Washington, Ohio, Georgia, and Idaho had initiated distance-learning clearinghouses of reviewed and approved online courses.[17] However, such efforts do not appear to have gained significant legislative traction in 2014. Louisiana (S 179) and Virginia (H 1115) enacted legislation relating to course approval, but Arizona failed to pass legislation (AZ H 2555) that would have required the department of education to maintain a master list of approved online courses. Additionally, failed legislation in Georgia (GA H 897) would have funded a clearinghouse as well as new course development and blended learning training for the Georgia Virtual School.

Despite the increase in digital curricula creation and implementation, the legislative scan reveals little progress toward mandated requirements for monitoring quality curriculum in online environments.

Ensuring Quality and Quantity of Instruction

Trends relating to the quality and quantity of virtual instruction that emerged or continued to demand legislative attention in 2014 included: course-level enrollment, blended learning, dual enrollment, proficiency-based learning, and seat time in the virtual education setting.

Course-Level Enrollment: The issues surrounding quality and quantity of instruction may become more complex before they become clearer. A March 2014 report by the U.S. Department of Education confirmed that many traditional high schools across the country do not offer the breadth and depth of courses required for college preparation and admission. For example, nationwide only 50 percent offered calculus while between 10 percent and 25 percent offered no more than one of the core courses necessary in a solid math and science sequence colleges require. [18] Therefore, to fill such unacceptable gaps, traditional schools are turning to online providers and driving growth in course-level virtual enrollment. According to Karen Billings, vice president of the education division for Software & Information Industry Association (SIIA), the education industry will continue to transform with "education divided into smaller and smaller bits of consumption."[19]

A specific avenue for course-level enrollment, Course Access "provides public school students with expanded course offerings across learning environments from diverse, accountable providers. It is a mechanism by which students can gain equitable access to a variety of courses in a programmatic effort to increase access, quality and equity in public education."[20] One element necessary for Course Access is that "the state (or state-approved entity, or a consortium of states with reciprocity agreements) should maintain a web-based

catalog of multiple providers and courses that have been approved based on demonstrated alignment to state academic standards, adherence to national quality standards, and course effectiveness data."[21] Further, "the state should monitor the quality of providers based on student growth, proficiency, and course satisfaction survey data from verified enrolled students."[22] While this approach holds promise for monitoring quality as well as student achievement, currently only seven states (Florida, Louisiana, Michigan, Minnesota, Texas, Utah and Wisconsin) have enacted legislation related to some aspects of Course Access policies.[23]

Blended Learning: A trend has emerged at the state and district level encouraging the adoption of blended learning, in which students learn content partly through in-class instruction with a teacher and partly through digital or online media. According to Education Elements, "successful blended learning occurs when technology and teaching inform each other."[24] In fact, in testimony to the Pennsylvania House Education Committee in October 2013, one presenter stated, "by 2019, at least 50 percent of high school courses will take place online in some form or fashion."[25] Legislative attention on the topic of blended learning in 2014 included the following:

- Florida legislation (H 7031; enacted) "provides funding for the implementation of the school district's digital classroom plans."

- Pending legislation in California (A 2178) "establishes the Blended Learning Pilot Program to explore various models of innovation and documenting best and promising practices in the emerging educational delivery model known as blended learning."

- Pending legislation in New York (A 8845) "establishes an online learning committee to make recommendations for establishment of a statewide online and blended learning program."

- Pending Ohio legislation (H 479) "authorizes the establishment of enterprise academy community schools that … uses blended learning for core subjects."

- Failed legislation in Tennessee (H 1810) would have created a hybrid learning program funded by federal, state and private funds.

Dual Credit: The proliferation of virtual courses has created greater opportunities for students to earn dual credit for both high school graduation and college credit. Three bills in 2014 addressed this potential trend in education: enacted legislation in Idaho (H 640) directs the Idaho Digital Learning Academy to "work with institutions of higher education to provide dual credit coursework"; South Dakota enacted legislation that clarifies provisions relating to dual education credit; and failed legislation in Missouri (H 1780) would have added "virtual courses to the post-secondary courses that can be offered to high school students participating in dual enrollment classes."

Proficiency-Based Learning: Affecting both traditional and virtual schools, proficiency-based learning (alternately called competency-based education) is another continuing trend. In the 2014 report, we discussed Maine's adoption of a proficiency-based

learning approach in which "time is the variable and learning driven by rigorous standards is the constant."[26] 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."[27] Pending legislation in Ohio (H 479) would authorize enterprise academy community schools that operate on an extended-day, year-round schedule to use a competency-based mastery curriculum model and blended learning for core subjects.

Seat Time: 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.[28] In the 2014 report, we indicated that 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.[29] While the question of seat time is still receiving attention, the approach among the states has varied. Arizona failed to pass legislation (H 2555) that would require students and virtual schools to maintain a daily log of time spent on instruction. Mississippi failed to enact legislation (S 2326) that would implement a seat time waiver program or early graduation policy for students who complete accelerated coursework. Meanwhile, Colorado enacted legislation (H 1382) that requires documentation of students' compliance with compulsory attendance.

While the marketplace for digital curricula is exploding across the country, the legislative scan indicated a division on the overall issue of quality and quantity of instruction in an online environment: states appear to be mandating incorporation of virtual instruction yet are not as attentive to mechanisms to ensure the quality of that content.

Tracking and Assessing Student Achievement

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

State and federal policies that increase demands for demonstrated student achievement make the flexibility of online options provided to students an especially important consideration. State legislation allowing students 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. 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.[30] Pending legislation in Pennsylvania (S 1388) mandates a study that includes a review of academic accountability methods and systems.

And, Vermont passed legislation for tracking student achievement and the effectiveness of various education models. There, H 885 funds an education analyst position in the State Education Agency (SEA) to create tools that decision makers can use to analyze areas including "student test scores, attendance, graduation and continuation rates, demographics, district expenditures by category, and staffing patterns." The analyst will "assess the return on education dollars based on analysis of opportunities provided, cost-effectiveness, and outcomes for a given level of expenditure."

Advocates and for-profit companies have claimed that students in virtual schools perform equal to or better than peers in traditional schools.[31] However, 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 to both their brick-and-mortar charter and traditional school counterparts.[32,33] No reputable, comprehensive studies on student performance in virtual schools were published in 2014, further indicating a need for solid research and policy attention in this area. However, 2014 did see some anecdotal indications of student performance, one from an unlikely source. In April, the National Collegiate Athletic Association (NCAA) announced that "24 schools which use a company called K12 Inc. to provide their curriculum were no longer approved." The Athnet website continues, "In addition to the 24 schools above, other schools affiliated with K12 Inc. remain under Extended Evaluation. This means the NCAA will continue to review coursework coming from those schools to see whether it meets the NCAA's core course and nontraditional course requirements." [34]

Interestingly, perhaps to provide an opportunity to evaluate the current state of online education before approving additional virtual schools, several states introduced legislation in 2014 calling for a temporary moratorium on virtual/charter schools: Illinois (H 3937 enacted), Maine (S 689 vetoed), New Jersey (S 989 pending), and Rhode Island (H 7755 pending).

The legislative scan indicated a moderate focus on enforcing quality standards for student achievement.

Recommendations

While state legislators have increased their focus on digital learning—including but not limited to virtual schools—in 2014, they have still not kept pace with the dynamic online education marketplace. Our overall legislative analysis indicates little continued progress over the past year in proactively addressing issues related to instructional program quality. Based on the preceding analysis, we reiterate our recommendations from the previous two reports. 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

While virtual schools capitalize on technology in ways that often reduce 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. That said, the research base on virtual school teachers continues to be scarce. While a great deal of research has focused on defining teacher quality in traditional settings,[35] 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

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?

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; however, 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.

Our reports in the last two years identified several policy issues, assumptions, and empirical questions that need to be answered (see Table 1.3). We revisit those topics in this segment and discuss new developments, focusing on the minimal progress state legislatures have made over the last year and the areas that still need attention.

Recruiting and Training Qualified Teachers

In our previous reports, 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."[36] 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.

The empirical evidence on who chooses to teach in a virtual setting and why, unfortunately, has not evolved to keep pace with the expansion of virtual schools across states. In fact, 2014 offered no new legislation regarding research to delve into these unanswered questions about teachers in virtual programs. It seems the academic realm may need to take the lead—without legislative mandate—on conducting effective research to better understand these questions surrounding online teachers.

We previously reported how some traditional teacher preparation programs had responded to state legislation that requires special attention to online teaching. However, in 2014, legislation across the states did not provide clear guidance for preparation programs as to future trends in requirements for certification. For instance, Florida (H 433) enacted legislation that addresses teacher certification in all schools, including its virtual options. However, this legislation is focused on those who certify teachers, rather than on the teachers themselves. It requires instructional personnel who supervise student

teaching of both traditional and online future instructors to meet certain requirements, including having received "clinical educator" training, holding a valid professional certificate, and having at least three years of teaching experience. Other legislation addressing teacher qualifications has been mixed, with mixed outcomes. Failed legislation in Florida (H 7083) would have required virtual instructors teaching a blended learning course to hold an active state or school district adjunct certification in the appropriate subject area. Legislation enacted in Utah (S 258) identifies certain circumstances that exempt an online teacher from having to obtain a license. However, legislation enacted in North Carolina (S 744) requires all teaching staff in virtual schools to hold appropriate state certification. And, enacted legislation in Louisiana (S 179) requires the state board to maintain a reciprocal teacher certification process for teachers who reside in other states but who are employed by authorized course providers.

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.[37]

There has been little progress toward requirements for the preparation, certification, and licensure of online teachers

None of the legislative developments in 2014 focus strictly on professional development requirements for virtual schools. Enacted Senate bill 622 in Louisiana, while not limited to virtual programs, provides training and ongoing professional development to ensure that teachers are adequately prepared to use technology infrastructure, software, data management and online resources. A pending bill in Michigan (S 838) focusing on effective integration of digital learning into curricula and instruction would provide extensive professional development to at least 500 educators. The legislature would then require a report identifying barriers and other opportunities to encourage the adoption of digital learning in the public education system. And enacted legislation in Florida (S 850) will require the Department of Education to disseminate web-based professional development materials aimed at increasing blended learning instruction in classrooms

Except for minimal recognition that online teachers need preparation that may differ from traditional preparation, overall our legislative analysis provided little evidence of positive trends. There has been little progress toward requirements for the preparation, certification, and licensure of online teachers; and, although there has been some attention to the need for ongoing professional development of teachers in virtual environments, there has been no specific progress. 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 previous reports, "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."[38] 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,[39] 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 performance.[40] 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 context, and it is likely that neither of the tools described above will easily transfer. While evolving efforts across states are increasing attention to the importance of teacher quality, states do not appear to be tailoring teacher evaluation policy to the specific demands of teaching in a virtual environment. In fact, our analysis revealed no new proposed legislation in 2014 relevant to this area.

This gap in evidence and in legislative attention should be of great concern, not only because of its implications for instructors who teach in full-time virtual schools, but also because of its implications in light of the explosion of digital media in traditional classrooms. Without evidence-based research to identify effective assessments of online teaching and clear legislative guidelines supporting their implementation, ensuring effective teaching within the burgeoning digital curricula marketplace—not only for virtual schools but also for blended learning programs and for supplemental digital curriculum in the traditional classroom—will remain especially challenging.

In relation to teacher retention, our previous report focused on teachers' satisfaction with teaching in virtual schools and examined whether teacher satisfaction may serve as a key predictor of teacher retention.[41] We reported that teaching load is a clear and consistent policy-relevant factor related to teacher satisfaction in virtual settings.[42] Our 2014 legislative analysis reveals that only Arkansas enacted legislation that addressed school size (AR SB48, limiting virtual charter school total student enrollment to 3,000 students), but no state has addressed pupil-teacher ratios in virtual schools, which continue to be high in comparison to brick-and-mortar schools.

Overall, then, our legislative analysis reveals little activity around the thorny but important issues of evaluating and retaining effective teachers in virtual schools. However, pending legislation in New Jersey (SR 29) expresses support for traditional classroom teaching conducted by highly qualified instructors. The bill states that while virtual

learning programs can be useful supplemental tools, they should not replace an effective teacher in a classroom. Contrasted with the growth in virtual education, perhaps this statement serves as an indicator on the lack of unity and clarity that exists in the legislative realm regarding oversight of virtual programs.

Recommendations

Based on our legislative analysis, we conclude that little progress has been made over the past year on issues related to teacher quality in virtual contexts. 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[43] 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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