State-Run Virtual Education Programs

Date	November 1, 2013
Request	01143

A state department of education (SDE) served by the Southeast Comprehensive Center (SECC) at SEDL requested information on state-run virtual education programs, specifically:

1. What are states doing to support districts through state-run virtual education (VE) programs?

2. What policies and procedures are necessary to support a successful program?

3. What staffing positions are essential, key positions necessary for both programming and supporting the expansion of a VE program?

4. What types of data are states reporting for students served in VE programs (i.e., course completion, students served, etc.)?

5. What funding models are used for state-run VE programs?

A discussion follows of the procedure for resource selection, limitations of this report, as well as additional information that pertains to the above topics.

PROCEDURE

To locate resources, the Information Request team searched research databases and online search engines, such as the Best Evidence Encyclopedia, Campbell Collaborative, EBSCO, ERIC (Education Resources Information Center), National Center for Education Statistics, Bing, Google, and Google Scholar. They also reviewed material from a number of organizations focused on education research, policy, and dissemination as well as those centered around information technology–Achieve, Alliance for Excellent Education, Center on Innovations in Learning, Education Commission of the States, National Education Policy Center, National Governors Association, PEW Charitable Trust, Southern Regional Education Board (SREB), United States Distance Learning Association, Western Cooperative for Educational Telecommunications, and Western Governors' Association.

To optimize search results, the team used a combination of the following terms: asynchronous education, synchronous education, blended instruction, efficacy of online education, virtual education reform, cap on student enrollment in virtual schools, instructional program quality, recruitment and retention of high-quality teachers, enrollment boundaries, accountability, limiting profiteering, for-profit virtual schools, professional development, teacher evaluation, data collection, special populations, funding, virtual schools, online schools, public virtual schools, virtual high schools, online education K–12, virtual education K–12, online courses K–12, public virtual schools K–12, online courses K–12 policy, virtual education K–12 policy, public virtual schools K–12 policy, virtual high schools policy, online courses K–12 policy research, virtual education K–12 policy research, virtual high school policy research, and public virtual schools policy research.

Upon review of 23 resources located in the above searches, the team selected 11 for inclusion in this report, based on these criteria: (a) publication date within the past 10 years; (b) state policies and programs in force as of September 1, 2013; and/or (c) content is relevant to the client's topics of interest. For detailed information, see Table 1., Synthesis Of Information Garnered Regarding Virtual Education Programs and the Resource Summaries, which are numbered and listed in alphabetical order by author.

In addition to the online searches, the request team searched the SDE websites for five southeast states (Alabama, Florida, Georgia, Mississippi, and North Carolina) to locate information about their virtual education programs. The team used a combination of these search terms—staffing for virtual education programs and personnel for virtual education programs—along with the specific state's name. A summary of the information gleaned from these searches is provided in Table 2., Information About Virtual Education Programs on Southeast States' Websites.

GENERAL LIMITATIONS

Although team members found numerous resources regarding virtual education, few addressed the key topics related to the structure, operation, staffing, data reporting, and funding of state-run virtual programs in detail. Of the 11 resources selected for inclusion in this report, five were evidence-based; the remaining resources consisted of one brief, one white paper, and four reports, which were descriptive in nature. Through searches of the five southeast states' websites, the team found additional information on policies/procedures, data reporting, and funding but limited information regarding key staffing positions for support and expansion of virtual education programs.

The request team provides the above comments to assist stakeholders in making informed decisions with respect to the information presented. However, SECC does not endorse any programs, policies, or guidelines in this report.

TABLE 1. SYNTHESIS OF INFORMATION GARNERED REGARDING VIRTUAL EDUCATION PROGRAMS		
TOPIC *(Corresponding questions on page 1)*	**RESOURCE**	**LESSONS LEARNED**
1. State Support for Districts	5, 7, 9, 10, 11	From these resources (Izumi, J. D. Alger, & Alger, 2011; Raise Your Hand Texas, 2012; SREB, 2011; SREB 2013; Watson, Murin, Vashaw, Gemin, & Rapp, 2012), the request team synthesizes that states have done a great deal over the past few years with the development of policies and the enactment of legislation to provide support to school districts. This support has taken the form of the development of consistent funding formulas, performance-based funding, and requiring districts to provide virtual opportunities where virtual classes were either nonexistent or were limited in nature. However, the information provided is descriptive in nature. There are gaps in the knowledge base regarding how state departments of education provide direct support to districts and the relationship between state-sponsored virtual education programs and district-sponsored programs. While there is a possibility of a perception that the state is in competition with school districts, the literature suggests that state departments of education will need to continue to work with districts to support students through a comprehensive virtual environment.
2. Key Staffing Positions for Support and Expansion	None	The team found that none of the resources discussed key staffing positions for support and expansion of virtual education programs. To locate supplemental information, the request team searched state department of education websites in the SECC states and found limited information, which is summarized in Table 2. One state provided a list of program staff (Alabama), while another listed its executive staff (Florida). The information is descriptive, and there are gaps in the knowledge base regarding staffing to support and expand such programs.
3. Policies and Procedures for Successful Programs	1, 3, 6, 10, 11	Regarding the creation of policies and procedures for successful programs, the listed resources (Barth, Hull, & St. Andrie, 2012; Glass, 2009; Molnar et al., 2013; SREB, 2013; Watson et al., 2012) discuss the need for states to develop or aid in development of legislation to create sustainable funding for virtual education programs. States are also encouraged to develop metrics to measure and regulate the quality of online courses and for-profit providers. Major recommendations in this area are that virtual education providers adopt the SREB or iNACOL standards for courses, perform yearly evaluations of programs, and provide user ratings and reviews to ensure that high-quality teachers are delivering content and working with students. Additional policy considerations centered around the need for states to consider digital textbooks; relaxation or the refinement of seat-time requirements; and policies that call for yearly review, auditing, and revocation of approval of virtual programs. Again, all of the available information is descriptive. The knowledge base on which policies and procedures lead to successful programs does not include rigorous research studies on the impact of different policies or procedures on the quality of virtual education programs.

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4. Data Reporting for Schools and Districts	1, 6, 7	A key issue surrounding data reporting relates to the limited availability of and access to these data. Barth et al. (2012) discuss student outcomes in online courses and note that attempts to document student performance have not been successful due to "missing or incomplete data, weak monitoring rules, and a vague picture of students dropping in and out of the online environment and subsequently the accountability system" (p. 9). In their 2013 report on virtual school performance, Molnar et al. note the limitations of these data and make recommendations regarding the types and amount of data reported by such schools. They also compared student performance measures for students in brick-and-mortar schools and those in virtual schools (i.e., adequate yearly progress, state ratings, and on-time graduation rates). The 2012 paper by Raise Your Hand Texas describes the use of test scores and accountability ratings to compare the performance of traditional schools with that of Texas' virtual schools. The paper discusses the process of determining cost effectiveness of the state's virtual schools and notes the difficulty of this task due to limited access to cost data for online schools. Many gaps remain in the knowledge base regarding the types of data reported by virtual schools to state departments of education. Further, it is clear that the availability of consistent, comparable, and reliable data is limiting more rigorous research on the impact of virtual schools on student achievement.
5. Funding Models Used for Programs	1, 2, 3, 4, 6, 8, 9,10, 11	Funding for virtual education differs nationwide, with states using various models and approaches. This includes reimbursement or funding of per-pupil costs as a percentage of per-pupil costs for conventional brick-and-mortar schools as well as funding for variable costs, such as labor, technology and infrastructure, operations, and school support in virtual schools (Barth et al., 2012; Butler, Haldeman, Laurans, 2012; Glass, 2009; Glass & Welner, 2011). Barth et al. (2012) summarize funding models and approaches used by Colorado, Florida, Ohio, and Pennsylvania (pp. 11–13) and compare per-pupil costs of virtual schools and per-pupil costs of blended learning schools (pp. 14–15). Butler et al. (2012) indicate that it's difficult to obtain an equivalent comparison of traditional schools with virtual schools due to multiple variables associated with online learning (p. 62). In their 2011 report, Glass and Welner (p. 8) discuss different approaches and requirements for virtual education funding in California, Florida, and Wisconsin, including audits of virtual schools, which, in some cases, have led to adjustments to reimbursement amounts for certain providers. Molnar et al. (2013) examine per-pupil allocation funding (Minnesota) and funding tied to course completion (Florida, Maine, and Texas). The authors also suggest that states develop funding formulas that incorporate the actual costs and expenses of virtual schools. A 2006 report from SREB provides three scenarios for estimating expenditures for virtual schools, based on numbers of enrollees in online education. SREB's 2011 report on virtual schools discusses funding in

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		15 southeast states for 2005–2006 and 2009–2010. A 2013 SREB report addresses various ways that states are handling funding issues, one of which is to move from legislative allocations to funding formulas based on course completion or passing end-of-course assessments. In the 2012 report regarding K–12 online and blending learning, Watson et al. describe funding mechanisms, such as appropriation, full-time online school funding, and standard charter school funding, among others (pp. 39–40). These sources provide good descriptive information about how virtual education programs are being funded. However, there is no evidence in the studies that were discussed from which to draw conclusions about what the best funding models are for virtual education programs.

TABLE 2. INFORMATION ABOUT VIRTUAL EDUCATION PROGRAMS ON SOUTHEAST STATES' WEBSITES		
TOPIC	**STATE**	**DESCRIPTION**
1. State Support for Districts	AL, FL, GA, MS, NC	All the websites provide contact information for SDE personnel and/or help desk information.
2. Key Staffing Positions for Support and Expansion		None of the websites provide specific information on staffing positions for support and expansion of a virtual education program.
	AL	Alabama provides information on program expansion, ACCESS staff, and distance learning support center regions.

ACCESS Distance Learning: A Plan for Continued Excellence 2011–2016
http://accessdl.state.al.us/Documents/NewPlan/ACCESSPlanFinalJan2011.pdf

Alabama outlines objectives regarding models of instruction, instructional support, and partnerships with postsecondary institutions on pages 9–10.

ACCESS Distance Learning Staff Listing
http://accessdl.state.al.us/AlabamaDepartmentofEducationACCESSStaff.html

ACCESS Distance Learning Support Center Regions
http://accessdl.state.al.us/access_map.pdf |
| **3. Policies and Procedures for Successful Programs** | AL | ACCESS Distance Learning Policy Manual for Participating Schools, School Systems, Administrators, and Staff (2009–2010)
http://accessdl.state.al.us/participatingschoolspolicies.pdf

This policy manual addresses requirements for participating schools, general policies regarding teachers, and policies for students. |
| | FL | FLVS Legislative Report (2011–2012)
http://www.flvs.net/areas/aboutus/Documents/2011_12_Legislative_Report.pdf

This legislative report on the Florida Virtual Schools program outlines policies and procedures, performance data (p. 4), cost information (p. 10), expansion plans (p. 25), professional development for teachers (p. 27), and more. |
| | GA | Georgia Virtual School: Approved Entities Manual of Best Practices, Policies, and Procedure Tips for Schools and Districts
http://www.gavirtualschool.org/Portals/2/ApprovedEntitiesManualBestPractices.docx.pdf

This manual outlines best practices, policies, and procedures, such as selection of students for courses, supervision of students taking courses on-site and outside the school building, and responsibilities for local school facilitators.

Georgia Virtual Learning, Georgia Virtual School: 2012–2016 Strategic Plan
https://docs.google.com/document/d/1t2EGC8XpVB08jWQuwldmZhWo82CEYB3s6_Vsbh4tNkA/edit?pli=1 |

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TOPIC	**STATE**	**DESCRIPTION**
	MS	Mississippi Virtual Public School Participation Agreement 2013–2014 http://www.connectionsacademy.com/Libraries/PDFs/MVPS_Agreement_2013-2014_final.pdf
4. Data Reporting for Schools and Districts	**FL**	FLVS Legislative Report (2011–2012) http://www.flvs.net/areas/aboutus/Documents/2011_12_Legislative_Report.pdf
	NC	North Carolina Virtual Public School: Results http://www.ncvps.org/index.php/about-us/results/ On this web page, North Carolina provides data reporting by student, school, and course.
5. Funding Models Used for Programs	**FL**	FLVS Legislative Report (2011–2012) http://www.flvs.net/areas/aboutus/Documents/2011_12_Legislative_Report.pdf
	NC	North Carolina Virtual Public School: Funding Formula and Financial Information http://www.ncvps.org/index.php/funding-formula-and-financial-information/

RESOURCE SUMMARIES

1. Barth, P., Hull, J., & St. Andrie, R. (2012, May). *Searching for the reality of virtual schools.* **Alexandria, VA: Center for Public Education. Retrieved from** http://www.centerforpubliceducation.org/Main-Menu/Organizing-a-school/Searching-for-the-reality-of-virtual-schools-at-a-glance/Searching-for-the-reality-of-virtual-schools-full-report.pdf

This report by the Center for Public Education looks at the ways in which online learning is currently being offered to students, current policies that impact virtual schools, and the effect of online learning on student achievement. Barth, Hull, and St. Andrie provide six major findings regarding these topics (p. 2):

- Online courses and schools enroll a small percent of the total population of public school students, but the number is growing.
- Development, management, and staffing of online courses are supported by public and private providers.
- Funding for online learning varies by state and ranges between 70–100% of state and local per-pupil rates.
- The effect of online courses on P–12 student achievement is not conclusive.
- Emerging data show an overall picture of poor academic performance and low graduation rates for full-time online students.
- There is a need for a clearer accountability path for online learning.

Highlights of the discussion regarding providers, state and district policies, data reporting, funding, and costs, are given below.

With respect to providers, a matrix created by the National Association of Charter School Authorizers (p. 3) describes various ways in which online learning can be provided to students. Dimensions listed in the matrix are comprehensiveness, reach, type, location, delivery, operational control, instruction type, grade level, teacher-student interaction, and student-student interaction. There is also a discussion of for-profit and nonprofit companies that provide online content, with districts reporting that, "75% of the distance education they offer is delivered by an entity outside of the school district" (p. 5).

According to Barth, Hull, and St. Andrie, state and district policies for monitoring student progress in online courses vary. Methods for tracking student progress include the following (p. 8):

- Attendance report
- Log-on activity
- Time spent online
- Assignments
- Interim grades
- Final grades

Although most districts track student course completion, the authors note that few have established policies for addressing consequences for failure to complete online courses.

In the areas of funding and costs, virtual schools are funded in various ways in different states, and costs are not tracked in a uniform manner. According to the authors, some states provide schools with the same amount of per-pupil funding that the student would have received if he had stayed in the local school district. While in other states, virtual charter schools (VCS) receive per-pupil funding based on per-pupil funding of the district in which the virtual school is located or the VCS may receive funding based on where the school is

headquartered. The authors discuss funding models and approaches used in the states of Colorado, Florida, Ohio, and Pennsylvania on pages 11–13.

Barth, Hull, and St. Andrie emphasize that there is limited availability of data on the costs of virtual schools. Their discussion includes a comparison of per-pupil costs of virtual schools and per-pupil costs of blended learning schools, based on data from the Fordham Institute (pp. 14–15).

Lastly, the authors provide questions to consider and explore from the issues identified in previous sections of the report. Three major recommendations are included in the "Moving Forward" section and followed up with resources that may help school leaders become more involved in the field of online learning.

Several states are highlighted in each section, and although the evidence in the report discusses research conducted by the U.S. Department of Education on student outcomes, the report also uses available research and evaluation documents to aid decision makers in obtaining additional information on expanding existing virtual education programs.

2. Butler, T. B., Haldeman, M., & Laurans, E. (2012, April). The costs of online learning. In C. E. Finn & D. R. Fairchild (Eds.), *Education reform for the digital era* **(pp. 55–77). Washington, DC: Thomas Fordham Institute. Retrieved from** http://www.edexcellencemedia.net/publications/2012/20120425-education-reform-for-the-digital-era/20120425-Education-Reform-for-the-Digital-Era-FINAL-Chapter-3.pdf

Chapter 3 attempts to give some depth into the real costs of online learning. By comparing relative costs of traditional schools with potential costs of online schools, the authors give a picture of what potential costs could be in different online learning scenarios. Due to the multiple variables involved in online learning, it can be difficult to get a clear understanding and an "apples to apples" comparison. The chapter identifies "critical cost drivers" to help bring about understanding.

Online learning generally consists of virtual and blended models, and under the blended model, there are the *Rotational* model and the *Flex* model. In Rotational, students spend part of every day participating in online learning. In the Flex model, students create their learning path and check in with instructors as needed.

In Table 3.1 (p. 62), the authors provide a comparison of the virtual model and the blended model, with cost estimates in five key categories, which they refer to as cost drivers:

- Labor
- Content acquisition and development
- Technology and infrastructure
- School operations
- School support

The three most significant cost drivers discussed in the report are highlighted below.

Labor. With regard to resource allocations, traditional schools tend to spend about 50% of their budgets on the workforce and the rest on operational costs. The authors state that a blended approach has the potential to save up to $1,100 per student, while the virtual approach can save up to $3,600 per student. These savings are attributed to operational costs. Through further examination of labor costs, the authors note that blended schools still retain costs for staff, such as guidance counselors, nurses, and other specialists, which are generally eliminated in the virtual model.

Content. According to the authors, while many traditional schools pay very little for content comparatively, online schools may need to spend content money on resources that are not needed in traditional schools, such as those for content development, management, and delivery. Other content costs come from the actual course content. Generally, schools have three choices in this area. They can use open-source materials/teacher-created materials (e.g., content from resources such as Khan Academy). Another option is to use coursework created by content providers, such as textbook publishers. Pricing generally comes in at $75 per course, without an instructor, and up to $400 with a course instructor. The final option is the most costly but allows for the greatest control over content. Many states and school districts have chosen this option, which is to create their own content. Although there are potential benefits and drawbacks associated with each approach, pricing in all these approaches can fluctuate wildly.

Technology and infrastructure. Average costs per student in a virtual environment can be around $1,200. These costs fluctuate as different schools take different approaches. Some schools allow students to use their own technology, while others provide hardware to students. In most instances, hardware is provided to the instructor. Along with the hardware, come the infrastructure and maintenance costs. Most schools need information technology support in place to ensure reliable service. The most significant costs for any of these approaches is in the startup phase. Consequently, many schools opt for turnkey solutions. These solutions provide a quick start to a program, but they may be limited in their flexibility to address the individual needs of a school or school district.

In conclusion, the authors point to the "promise" of online learning. As technology tools become more prevalent, costs should decrease, according to the authors. The biggest caveat at this point would be the lack of data to show the effectiveness of online learning.

3. Glass, G. V. (2009). *The realities of K–12 virtual education.* **East Lansing, MI: Great Lakes Center for Education Research & Practice. Retrieved from** http://greatlakescenter.org/docs/Policy_Briefs/Glass_Virtual.pdf

This policy brief, sponsored by the Great Lakes Center for Education Research & Practice, discusses costs, funding, and the variable quality of virtual education. Glass makes four recommendations that include (a) adopting new regulations governing the provision of online K–12 schooling, (b) requiring audits of providers, (c) recognizing legitimate accrediting agencies, and (d) requiring credible assessment and evaluation. This brief provides both a research and practical base to support the recommendations provided by the author.

Glass begins with a historical look at virtual education in an effort to aid the reader in understanding this field. The author notes that the most difficult questions surrounding the expansion of virtual education by private companies are due to the unique relationship between commercial agencies and government and public agencies.

The author then discusses the available research on virtual education, with a focus on these major areas—the prevalence of virtual education, achievement outcomes, the cost of virtual schooling (p. 8), and the quality of virtual schooling. Several state-specific examples are provided to give the reader additional practical information to support the four recommendations.

In addition, Glass discusses recent developments in virtual education, such as concerns regarding certification of "virtual teachers" and state initiatives to improve requirements for online courses or programs as well as access to virtual education (p. 10). The author ends the discussion with a look at the connection between private companies and virtual education and his recommendations for federal, state, and local decision makers.

4. Glass, G. V., & Welner, K. G. (2011). *Online K–12 schooling in the U.S.: Uncertain private ventures in need of public regulation.* **Boulder, CO: National Education Policy Center. Retrieved from** http://files.eric.ed.gov/fulltext/ED526345.pdf

This policy brief was written to update and supplement Glass' 2009 report, *The Realities of K–12 Virtual Education.* This update attempts to describe the current status of online schooling in America, synthesize major research findings on the effectiveness of online instruction, analyze the political and economic forces shaping the movement toward increased use of online education at the K–12 level, and offer recommendations based on research findings. The focus of this brief is on how public and private interests come together in what amounts to a publicly funded private venture. Further, the authors point out that only a small percentage of students enroll full-time in state-run virtual schools.

Glass and Welner begin with an introduction that states the goals of the brief, which include reviewing the research findings regarding online schools and providing recommendations to address these findings. The authors found that most research on virtual K–12 schools centers around four issues: (a) the incidence and rate of growth of the virtual school population; (b) the effectiveness of virtual K–12 schooling on student achievement; (c) the cost of virtual K–12 schooling as it relates to the cost of attending brick-and-mortar schools (p. 6); and (d) the quality of virtual K–12 schooling (p. 7), as it might be viewed by traditional accrediting agencies and the public. They discuss each issue and provide a summary of the research studies that have been conducted on each topic.

None of the studies reported by the authors attempted to compare student outcomes for virtual and traditional schooling. Most of the studies reviewed in this report dealt with research on virtual education in medical training or postsecondary settings. The studies found major limitations in the research including that (a) no study examined test performance over an extended period, (b) no study compared outcomes for virtual and full-time schooling, and (c) no study looked at a complete curriculum. Further, Glass and Welner acknowledge that the question about whether virtual education can be substituted for traditional schooling is different from the actual questions answered in the studies reported.

Next, the authors discuss expenditures for K–12 virtual schooling. They found that a majority of the small, for-profit companies that have moved into full-time virtual schooling have done so as charter schools. In this way, these virtual charter schools can receive funding similarly to traditional or brick-and-mortar schools. These schools also lobby for equal funding, and according to Glass and Welner, argue that expenses are similar to that for traditional schools. In this section, the authors also state that legislatures support the creation of virtual schools as a way to reduce costs but note that state laws in various states fund virtual charter schools at amounts similar to brick-and-mortar charter schools.

The next topics that Glass and Welner discuss are equity and quality of virtual schools. The authors state that although in certain instances virtual education provides new or often superior opportunities, current policy does not ensure equal access for all students. They pose questions for policymakers regarding equity and access. Regarding quality, the authors talk about the need for a closer look at quality indicators that go beyond achievement tests. These include teacher certification, authenticity of student work, and accreditation. They then discuss recent developments and the commercial interests and corporate relationships that should prompt more scrutiny through discussions, oversight, and additional analysis. One example noted by the authors is the current director of Arizona Virtual Academy who was an employee of a conservative think tank. This individual serves on the Arizona Charter School Board (and was the previous chair) and is a senior vice-president of K12 Inc., with almost two-thirds of the state money going to the Arizona Virtual Academy passing through K12 Inc.

The report ends with recommendations for decision makers in four areas: (a) authentication of the source of students' work, (b) fiscal and instructional regulations, (c) audits, and (d) accreditation (p. 13).

5. Izumi, L. T., Alger, J. D., & Alger, V. M. (2011). *Enchanted future: The promise of virtual education in New Mexico*. **Albuquerque, NM: Rio Grande Foundation. Retrieved from** http://www.riograndefoundation.org/downloads/rgf_virtual_education.pdf

The authors of this policy brief discuss the advantages of virtual learning opportunities for New Mexico, a state that has struggled with very low student outcomes in reading and mathematics achievement and low graduation rates. New Mexico has a diverse student population distributed across a large number of rural areas throughout the state. According to the authors, the need for expanded learning opportunities through virtual learning provides students in New Mexico with access to courses, teachers, scheduling flexibility, and credit-recovery they would not have had otherwise. Other benefits include cost-efficiency, due to no construction or other building infrastructure required for a virtual school.

New Mexico has been recognized for its state-led online learning policies that have made virtual learning available to meet the needs of learners in traditional public education, higher education, professional development, and workforce education. New Mexico's statewide e-learning program, Innovative Digital Education and Learning New Mexico (IDEAL-NM), provides courses that learners at all of the above levels can access. After examining the current policies that positively or negatively impact virtual learning in the state, the authors address the advantages of widening the state's virtual learning opportunities by establishing policies and procedures that would enhance virtual education and contribute to improving course completion, achievement, and graduation rates.

The authors conclude the brief by advocating that New Mexico policymakers consider five "promising practices" other states have used to optimize the benefits of virtual education within their states (pp. 12–16):

- Fund virtual schools based on student performance. Following the success of other state financing practices (e.g., Florida Virtual Schools) means thinking differently about state policies that could interfere with allowing students to focus on successful completion of online courses, rather than, for instance, the time they remain in a course or grade.

- Provide expanded enrollment opportunities. Virtual schools have the potential for being efficient, budget-meeting enterprises that then produce other benefits in student engagement and instructor flexibility. This would make educational opportunities available to students who may not otherwise have the advantages of high-quality education.

- Remove inflexible teacher certification requirements. This would allow individuals with subject matter expertise, professional experience, and nontraditional advanced degrees to enter the teaching profession. It also would improve access to well-qualified teachers for students in rural, remote, and high-need areas of the state.

- Eliminate outdated mandates for class size, seat time, supervision, and similar requirements. Use of a more student-focused approach to instruction and learning might result in greater course completion, and ultimately, higher graduation rates.

- Provide what is needed for parents to be able to offer educational services at home so that they can properly supervise their students as needed for virtual courses.

This report includes one table, eight text box quotes from participants in the evaluation study, and 99 endnotes.

New Mexico's primary goal for virtual education is aptly summed up by Thomas Ryan, chief information officer of Albuquerque Public Schools: "We wanted to bring education to meet kids at their need. . .So it isn't a function of distance. It isn't a function of where you choose to live. It isn't a function of how much money your school district has, or your family has" (p. 7).

6. Molnar, A., Miron, G., Huerta, L., Rice, J. K., Cuban, L., Horvitz, B., Gulosino, C., & Shafer, S. R. (2013). *Virtual schools in the U.S. 2013: Politics, performance, policy, and research evidence.* **Boulder, CO: National Education Policy Center. Retrieved from** http://nepc.colorado.edu/files/nepc-virtual-2013.pdf

Introduction
The author of the introduction (Molnar) positions this paper as the first in a planned annual series, filling a need in the field of virtual education for timely reports that go beyond descriptive surveys of virtual education (e.g., the annual *Keeping Pace* reports), to offer updated analyses of the research on virtual education and policy recommendations for the field, by authors unconnected with advocacy groups or commercial groups involved in virtual education.

Full-Time Virtual Schools: Enrollment, Student Characteristics, and Performance
The authors of this section (Miron, Horvitz, & Gulosino) used publicly available data to inventory full-time virtual schools in the United States, describe the characteristics of the students enrolled in those schools, and analyze student performance.

The authors note several limitations in available data, and they recommend changes in the state and federal data reporting on virtual schools to overcome these limitations. These recommendations include the following:

- Full-time virtual schools should be clearly distinguishable in the data from other instructional models.

- Full-time virtual schools should be required to fully report data on the characteristics of enrolled students. Currently, the data on student ethnic background and free- and reduced-price lunch status is fairly complete, but often special education status is not reported.

The authors also compared student performance measures of identified full-time virtual schools to those of brick-and-mortar schools. These measures included adequate yearly progress (AYP) status, state ratings, and on-time graduation rates. From their analyses, the authors conclude that students in full-time virtual schools are not performing as well as students in brick-and-mortar schools, on each of the measures. For example, in 2010–2011, 52% of brick-and-mortar schools (both district and charter schools) met AYP, but only 23.6% of full-time virtual schools did so. Among the full-time virtual schools for which state ratings were available, 71.9% were rated as academically unacceptable in 2011–2012. Also in 2011–2012, full-time virtual schools had an on-time graduation rate (37.6%) that was less than half the national average of brick-and-mortar schools (79.4%).

Based on these findings, the authors recommend that further expansion of full-time virtual schools is unwise until more is known about the reasons for the overall poor performance of students in those schools and strategies for addressing those reasons have been implemented. In cases where a state already has a for-profit company operating full-time virtual schools, the authors recommend that in the absence of clear evidence from the provider about the performance of current students, policymakers should impose caps on enrollment. Finally, the authors point out that AYP is an imperfect measure for looking at the performance of students in full-time virtual schools, since it covers both academic and non-academic measures (e.g., attendance, percent of students taking a state exam), and is not designed to support growth. They recommend that policymakers should also support work to develop new and more appropriate outcome measures for analyzing student performance in full-time virtual schools.

Key Policy Issues in Virtual Schools: Finance and Governance, Instructional Quality, and Teacher Quality.
The authors of this section (Huerta, King Rice, & Rankin) review policy problems, assumptions, and
empirical questions surrounding the three areas of finance and governance, instructional program quality,
and teacher quality in virtual schools. In the area of finance, they conclude that no state currently has a
formula that funds virtual schools based on the actual costs and expenditures of operation. They
recommend that states develop such a formula by gathering data associated with costs and expenditures
linked to governance, program offerings, types of students served, and operational costs.

Current funding formulas that they reviewed include the following:

- Per-pupil allocations similar to those for brick-and-mortar schools, adjusted for factors related to
  average student attendance and student needs. (Minnesota funds both virtual schools and
  traditional schools with the same per-pupil allocation.)

- Funding tied to successful completion of courses. (Florida, Maine, and Texas fund schools
  this way.)

The authors also cite other research (*The Costs of Online Learning*, a 2012 Thomas B. Fordham
Foundation report) estimating that when actual expenditures are taken into account, the average annual
per-pupil cost is $10,000 for traditional schools, $7,600 to $10,200 for blended schools, and $5,100 to
$7,700 for full-time virtual schools. Another report reviewed by the authors (*Understanding and Improving
Full-Time Virtual Schools*) points out that virtual schools enjoy significant cost advantages through little or
no need for facilities, transportation, and food services. Other cost advantages come through spending less
on teacher and administrator salaries and benefits, student support services, and special education
instruction.

Recommendations for policymakers include the following:

- Require virtual schools to report expenditures linked to student needs, including technology
  adoption, learning materials, paraprofessional services, and third-party curriculums.

- Include in funding formulas a provision for the costs associated with tracking attendance and
  student records and for defining and tracking instructional time.

Regarding instructional quality, the authors recommend that policymakers refer to the *iNACOL Standards
of Quality for Online Courses* as a starting point for assessing course content. With respect to teacher
quality, the authors note that there is little guidance from existing research about what attributes are
important for successful teaching in virtual schools or which practices in online environments might be most
effective. However, the authors recommend that policymakers start considering measures to retain
effective teachers and to better ensure instructional quality, through the establishment of guidelines for
teacher-student ratios in online courses.

For example, California legislation states that in any online courses where teachers and students
participate at the same time, the teacher-student ratio must not be higher than what is allowed in other
types of courses, although this ratio can be changed through collective bargaining negotiations.

Looking across the three areas, the authors also recommend that policymakers advocate for work in the
following critical areas: (a) creating effective and comprehensive teacher evaluation rubrics, (b) developing
a comprehensive system of summative and formative assessments for student achievement, (c) and
assessing the contributions of different providers to student growth.

Claims and Evidence: The Virtual Schools Research Base

The author of this section, Cuban, recommends that policymakers promote and wait for better research in the area of virtual education before offering more support for its expansion. His analysis of research claiming to show enhanced student achievement through virtual education is that those studies are either flawed or their conclusions have been misinterpreted. For example, an often-cited 2010 meta-analysis from the U.S. Department of Education (ED) found some studies in which students in online conditions performed modestly better than students in face-to-face instruction. However, Cuban notes that the authors of this ED report stated that these gains could be possibly due to factors other than technology; namely, that students in the online courses may simply have spent more time on the material to be learned. This qualification of results is often not included when advocates for virtual education cite the ED study. Cuban strongly urges that policymakers employ skepticism when reading claims about the advantages of virtual education, and check the claims against the original studies.

In short, Cuban concludes that there is currently an insufficient framework for policymakers to use in building wise policy for expanding virtual education. He suggests numerous example questions (p. 66) that researchers should strive to answer in order to provide policymakers with the framework they need.

7. Raise Your Hand Texas. (2012, October). *Virtual schools in Texas: Good for kids or merely good for profit?* **Houston, TX: Author. Retrieved from**
http://www.raiseyourhandtexas.org/wp-content/uploads/2012/10/virtual-schools-white-paper.pdf

This white paper focuses on the cost-effectiveness of virtual education in Texas. While the use of virtual education is rising dramatically, there is a lack of evidence to show effectiveness. The Texas Education Agency (TEA) provides two types of instruction under the Texas Virtual School Network (TxVSN):

- Blended or supplemental courses – these are intended to provide schedule flexibility for students that are otherwise enrolled in a traditional school

- Full-time Virtual Schools – these provide all courses for a student over the TxVSN

According to this paper, school districts and charters contract with for-profit course providers to provide course content. Under the current structure, the costs to districts are the same for students enrolled in traditional schools and the virtual schools. Currently, the state has seen no cost savings.

The majority of students in virtual schools tend to be white (57.2%), while the majority of students in the traditional schools are the economically disadvantaged (59.2%).

The paper reports that test scores from the blended or supplemental courses are comparable to traditional instruction. Performance from the established virtual schools has been shown to be lower statewide than in traditional settings.

In conclusion, this paper expresses concerns over poor performance in virtual schools, lack of evidence for any cost savings, and the need for accountability measures, stating that "There is a lack of quality accountability measures in place to keep the for-profit private providers engaged in successful student outcomes" (p. 5).

8. Southern Regional Education Board. (2006, August). *Cost guidelines for state virtual schools: Development, implementation and sustainability.* **Atlanta, GA: Author. Retrieved from**
http://publications.sreb.org/2006/06T03_Virtual_School_Costs.pdf

Through this report, SREB examines cost guidelines for implementing and sustaining state virtual schools. State-run virtual school costs are contrasted with expenses for traditional brick-and-mortar schools. Differences between how virtual and traditional brick-and-mortar schools are administered, staffed, and maintain technology infrastructure are discussed. The report lists the advantages of virtual schools for students and for the state. Students have more options for courses that are not offered at their brick-and-mortar schools and for courses they may need to take on a different schedule or to gain needed credits. States can find advantages in virtual education through the decreased costs that can be realized after the initial funds for establishing the virtual school (e.g., obtaining or developing the courses and training staff) have been expended.

Funding challenges, such as the lack of numerous models for state funding of virtual schools and obtaining support of state and local decision makers are also briefly discussed. The remainder of the report delineates cost guidelines through examples of the funding considerations that policymakers need to consider when starting and maintaining a statewide virtual school program.

The final section of the report consists of three scenarios that exemplify how to estimate expenditures for state virtual schools based on three different levels of implementation. The first scenario focuses on estimating costs for a number of one-semester enrollees in online education—the smallest level of implementation. Features and considerations of a quality virtual school program are then discussed. For example, to save on expenses and concentrate on installing the administrative infrastructure for the virtual school program, a recommended practice is to consider using online courses prepared by a third party.

Scenario Two increases the number of one-semester student enrollees to five times the number of students in the first scenario at nearly three times the amount of expected expenditures. The final scenario doubles the number of student enrollees from Scenario Two with an additional 50% for expected expenditures. The increased expenses in the final scenario would be for greater course development and modification, staffing, and marketing needs. Each scenario section includes an example table of cost expenditures for up to 12 areas that need to be estimated for a state-run virtual school program.

This report contains three appendices. Appendix A is a worksheet that can be used to make plans and projections for a state-run virtual school. The two-page worksheet lists 12 areas for consideration of costs of implementing, sustaining, and accelerating growth of a state virtual school. Appendix B is a two-page table of an operating budget for a state-run virtual school that is broken down by department, staff, and budget. The eight departments are further subdivided into areas that need to be considered for accurately estimating the operating budget. An annotated list of eight additional resources concerning costs for virtual schools is provided in Appendix C.

9. Southern Regional Education Board. (2011, June). *2010 report on state virtual schools in SREB states.* **Atlanta, GA: Author. Retrieved from** http://publications.sreb.org/2010/2010ExecutiveSummary.pdf

This report identifies trends in state virtual schools for the 2009–2010 academic year. Fourteen of the 16 SREB states responded to this survey. The report highlighted changes from the 2008–2009 survey, such as the following:

- Increase in funding for five states and a decrease in seven states
- Increases in enrollment in four of the states by 40% or more and decreases in three states
- An expanded use and investment in e-textbooks

Most of the states responded that they faced budget constraints. Eleven of the states cited "budget reductions" as a major issue (p. 3). While many of the states reported these reductions in funding, most also reported increases in enrollment. Some states were forced to reduce staff and course offerings, while others have been unable to fill curriculum positions. Seven of the states saw decreases in funding, and four of those saw decreases greater than 20%.

Many of the states reported that districts were continuing to offer their own virtual school options. Some states saw this as beneficial, as it made virtual learning more common; other states saw it as a competition to the state offered virtual courses. Twelve states reported having districts that offered their own virtual learning programs. (Florida requires this of all districts.)

According to data in Table 2 (p. 8), North Carolina and South Carolina have seen the biggest increases in funding since the 2005–2006 academic year. Louisiana and South Carolina predicted reduced enrollments due to budget constraints over the next 5 years.

Regarding types of online courses, all respondents indicated offering Advanced Placement (AP) courses as well as core subjects. Six offered dual credit, and six offered technical courses. Eleven of the respondents indicated offering credit-recovery courses.

Another highlight was the increasing use of e-textbooks. Eleven states reported using them, and six of those required their use. For example, Alabama reported working with content creators to develop digital material for all its courses with the goal of being textbook independent.

According to Figure 6 (p. 13), students who were surveyed reported various reasons for taking online courses, such as (a) courses were unavailable in their school, (b) schedule conflict, and (c) to graduate on time. In Figure 7, (p. 14), students stated various reasons for dropping from virtual courses, which include

- Courses too difficult
- Technical problems
- Getting behind/unable to catch up
- Personal conflicts
- Not disciplined enough to work independently

In conclusion, the report stated that despite budgetary problems, most states are going forward, and enrollment is increasing. States continue to look for viable solutions to funding issues and see this type of education reform as an important issue.

10. Southern Regional Education Board. (2013). *Trends in state-run virtual schools in the SREB region.* Atlanta, GA: Author. Retrieved from http://publications.sreb.org/2013/13T01_Trends_State-Run.pdf

This report by the Southern Regional Education Board summarizes previous reports on the state of virtual education in the 16 states it represents and summarizes 2010–2012 legislative decisions that affect state-run virtual schools. The report recognizes the changing landscape of virtual education in the southern states, most of which have had some type of state-supported virtual education system in place since 2009.

Some states, having been affected by national economic cutbacks, have made decisions to close virtual schools or to shift funding to local districts or parents and students. Other states, such as Kentucky and Louisiana, have begun to oversee the virtual education course offerings in their states, developing quality guidelines and shifting their role to helping districts, students, or parents make good decisions about online education. Currently, 12 of the 16 SREB states have a state-supported virtual school.

Course enrollments in state-run virtual schools reflect the national trend of increasing annual enrollments, but SREB states have seen a nearly 300% increase through the 2010–2011 school year. Most states have increased their budgets to meet the increased enrollment needs, but three of the states experienced a decrease for their state-run school budgets during this reporting period. Many SREB school districts have increased their involvement in coordinating or offering online courses for their students. Legislatures have started to require that districts allow students to take online courses, whether they directly offer the courses or not. Many SREB school districts indicate they intend to offer additional courses or to start offering online courses in coming years.

Other issues are discussed in this report, such as various ways states are addressing funding issues (moving from legislative allocations to more stable funding formulas based on course completion or passing end-of-course assessments). Some state legislatures have also recognized that students want or need to participate in online learning as part of their high school experience. Requirements for taking at least one online course before graduation are increasing in SREB states.

The report continues with a discussion of state actions to define quality for online courses, including the creation of rating systems and evaluation requirements from students or parents. States have also examined technologies, such as mobile devices, that can serve as instructional and learning tools. The report concludes with recommendations for SREB states and school districts to meet the needs of their students by ensuring they have access to online education and the technological tools they need to experience virtual learning before graduation. The report contains excerpts from SREB state legislative documents that show the changes being enacted to support virtual education in the states. Fourteen references along with four tables about the status of SREB state virtual schools, unique student and course enrollments, and a funding change report are provided at the end of the document.

11. Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2012). *Keeping pace with K–12 online & blended learning: An annual review of policy and practice***. Durango, CO: Evergreen Education Group. Retrieved from** http://kpk12.com/cms/wp-content/uploads/KeepingPace2012.pdf

This extensive report provides a snapshot of online learning in each state, a discussion of trends across states, and planning templates for policymakers interested in expanding virtual education.

The state snapshots describe the online schools, state virtual school, district programs, online policy history, and quality assurance, teaching, and curriculums. Below are hyperlinks to the snapshots for six states in the southeast region:

Alabama: http://kpk12.com/states/alabama/

Florida: http://kpk12.com/states/florida/

Georgia: http://kpk12.com/states/georgia/

Mississippi: http://kpk12.com/states/mississippi/

North Carolina: http://kpk12.com/states/north-carolina/

South Carolina: http://kpk12.com/states/south-carolina/

The following are key elements from the report most likely to be relevant to the interests of the client:

- The most prominent state-run virtual schools are in the following states: Alabama, Florida, Georgia, Idaho, Michigan, Montana, New Hampshire, North Carolina, and South Carolina. The snapshot portion of the report contains a detailed description of the legislated funding model used in each state. According to the authors of the report, Florida is the only state that offers a full range of online learning options (full-time and part-time) for all students at all levels of K–12 education. The history of the funding model for FLVS (Florida Virtual Schools) is as follows: In the late 1990s and early 2000s, state appropriations of more the $20 million supported FLVS. Since then, FLVS has been supported by legislation that enables any student to take an FLVS course, paid for by that student's state funding upon successful course completion.

- Across all states, the funding mechanisms for online schools and courses fall into the following categories: appropriation, standard ADM/ADA, full-time online school funding, standard charter school funding, independent study, and performance-based funding. The authors note the pros and cons of each mechanism (p. 40), with the exception of the newest mechanism, performance-based funding.

- The authors of the report suggest that an often-overlooked model of virtual education, which may provide important opportunities and benefits, is the model of offering single online courses to students in physical schools. These courses can provide opportunities for learning at levels and in subject areas otherwise not available to hundreds of thousands of students.

- The authors of the report also predict that the spread of fully online schools will slow in the coming year and that "blended" schools (those that offer some combination of online learning and learning in brick-and-mortar schools) will grow. The authors also hope to see growth in state accountability and data systems, with advances that are geared toward better capturing student outcomes. In addition, the authors express an opinion that the most important element that should be present in blending learning models is a focus on gathering data from students' online work to inform the rest of the system (including the teacher and the technology), so that each student's subsequent instruction is personalized and continually improved.

- On pages 46–55, the authors provide an extensive framework for policymakers to use if they are interested in issuing a request for proposals from outside providers.

- The authors also provide suggested timelines and processes for successfully implementing a variety of types of online or blended programs, including:
  - Programs in which a district or local education agency (LEA) develops its own courses and uses local teachers for instruction (18-month timeline, pp. 57–59)
  - Programs in which a district or LEA gets content from an outside provider and uses local teachers for instruction (12-month timeline, pp. 60–61)
  - Programs in which a district gets both content and instruction from an outside provider (9-month timeline, pp. 62–63)

Information Requests are customized reports that are prepared to fulfill requests for information by the departments of education of the states served by the Southeast Comprehensive Center at SEDL. The requests address topics on current education issues related to the requirements and implementation of the Elementary and Secondary Education Act (ESEA). For additional information, visit the SECC website at secc.sedl.org.

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