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VIRTUAL SCHOOLS IN THE U.S. 2014: POLITICS, PERFORMANCE, POLICY, AND RESEARCH EVIDENCE

Section III Full-Time Virtual Schools: Enrollment, Student Characteristics, and Performance

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Executive Summary

This section provides a detailed overview and inventory of full-time virtual schools. Full-time virtual schools deliver all curriculum and instruction via the internet and electronic communication, usually asynchronously with students at home and teachers at a remote

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location. Although increasing numbers of parents and students are choosing this option, we know little about virtual schooling in general, and very little about full-time virtual schools in particular. The evidence suggests that strong growth in enrollment continued in this sector in 2012-2013. K12 Inc. remains dominant in the sector and although more districts are opening their own virtual schools, these tend to have limited enrollments while the virtual schools operated by for-profit education management organizations (EMOs)

This report provides a census of full-time virtual schools. The report also describes the students enrolled in these schools, state-specific school performance ratings, and a comparison of virtual schools ratings as compared with national norms.

Current scope of full-time virtual schools:

- There were 338 full-time virtual schools identified and included in our 2012-2013 inventory. These schools enrolling nearly 243,000 students.
- Among the schools in the inventory, 64% are charter schools and 36% are operated by districts or—in a few instances—by state agencies.
- Although only 44% of the full-time virtual schools are operated by private education management organizations (EMOs), they account for 80% of all enrollments.
- Virtual schools operated by the for-profit EMOs have an average enrollment of 1,230 students while full-time virtual schools operate by nonprofit EMOs and those that operate with no EMO enroll on average 470 and 362 students, respectively.
- Among the schools in the inventory, 61% are charter schools and they account for 85% of the enrollment. School districts are increasingly creating their own virtual schools but these tend to have far fewer students enrolled.
- Relative to national public school enrollment, virtual schools substantially fewer minority students, fewer low-income students, fewer students with disabilities, and fewer students classified as English language learners. Girls are also more prevalent in virtual schools relative to other public schools.
- While the average student-teacher ratio is approximately 15 students per teacher in the nation's public schools, virtual schools report more than twice as many students per teacher. As Figure 3.7 depicts, virtual schools operated by for-profit EMOs report the highest student-teacher ratio (37 students per teacher), and the virtual schools operated by nonprofit EMOs have the lowest student teacher ratio (17.3 students per teacher).

School Performance Data:

- Most states have implemented school performance ratings or scores. These usually are based on a variety of measures that are then combined to arrive at an overall evaluation of school performance.

- Thirty percent of the virtual schools in 2012-13 did not receive any state accountability/performance ratings. Of the 231 schools with ratings, only 33.76% had academically acceptable ratings.
- Independent virtual schools that do not have EMOs were more likely to receive an acceptable rating than virtual schools operated by private EMOs: 36% compared with 31.18%.
- On average, virtual schools' Adequate Yearly Progress (AYP) results were 22 percentage points lower than those of brick-and-mortar schools (2011-12). AYP ratings were substantially weaker for virtual schools managed by EMOs than for brick-and-mortar schools managed by EMOs: 29.6% compared with 51.1%.
- Only 157 virtual schools reported a score related to on-time graduation in 2012-13. Based on the available data, the on-time graduation rates for full-time virtual schools was close to half the national average: 43.8% and 78.6%, respectively.

Recommendations

- Given the rapid growth of virtual schools, the populations they serve, and their relatively poor performance on widely used accountability measures, it is recommended that:
- Policymakers should slow or stop growth in the number of virtual schools and the size of their enrollment until the reasons for their relatively poor performance have been identified and addressed.
- Given that all measures of school performance indicate insufficient or ineffective instruction, these virtual schools should be required to devote resources toward instruction, particularly by reducing the ratio of students to teachers.
- State education agencies and the federal National Center for Education Statistics should clearly identify full-time virtual-schools in their datasets, distinguishing them other instructional models. This will facilitate further research on this subgroup of schools.
- State agencies should ensure that virtual schools fully report data related to the population of students they serve and the teachers they employ.
- State and federal policymakers should promote efforts to design new outcomes measures appropriate to the unique characteristics of full-time virtual schools.

Section III

Full-Time Virtual Schools: Enrollment, Student Characteristics, and Performance

Although there is a notable lack of credible research evidence related to online education—especially evidence on full-time programs, as noted in earlier sections of this report—an increasing number of parents and students are opting for full-time online options. In addition, many states have adopted legislation permitting full-time virtual schools or removing the caps that once limited their growth. Despite such apparent enthusiasm for full-time online schools, information on how they are functioning has been sorely lacking, with much of what is known coming from investigative reporters rather than academic researchers. No information has been available, for example, on such basic questions as the number of full-time virtual elementary and secondary schools operating, the number of students enrolled in them, or the rate at which they are expanding.

To fill this information gap, this section offers a unique inventory of full-time virtual schools. The inventory, initiated in this NEPC report series as a first research-based effort to track developments nation-wide, helps identify which students full-time online schools are serving, how well the schools are performing, and how quickly their numbers are expanding or contracting. Questions we seek to answer include:

- How many full-time virtual schools operate in the U.S.? How many students do they enroll?
- What are the demographic characteristics of students enrolled in full-time virtual schools? Within individual states, how do demographic data differ for students enrolled in virtual schools and those enrolled in brick-and-mortar schools?
- How do full-time virtual schools perform in terms of student achievement relative to other public schools?

Student demographics reported here include grade level, ethnicity, gender, socioeconomic status, special education status, and English language learning status. Data on school performance includes a comparison of aggregate performance ratings and national norms.

Building on last year's report, we have updated the inventory with available data for the 2012-13 academic year. In addition, we have provided details on specific schools in Appendices B and C, which can be downloaded from the NEPC website: <http://nepc.colorado.edu/publication/virtual-schools-annual-2014>.

Data Sources, Selection Criteria and Aggregation Calculations

The findings presented below are based on publicly available data, collected, audited, and warehoused by public authorities.

The scope of this inventory is limited to full-time, public elementary and secondary virtual schools serving U.S. students. These include virtual schools operated by for-profit and nonprofit Education Management Organizations (EMOs) as well as virtual schools operated by states or districts. Private virtual schools (supported by a private organization or individual) are excluded. Also excluded are schools offering a combination of full-time virtual programs and blended programs, unless it was possible to separate data for the full-time virtual school component.

Schools were typically identified by the unique school ID code assigned by the National Center for Education Statistics (NCES). This criterion helped identify and exclude smaller programs operated by districts, or schools not intended to be full-time virtual schools. That is, we worked to eliminate programs that simply offer an extensive menu of individual course options but do not function as schools.¹ We also exclude hybrid schools, which employ both face-to-face and online instruction. Relatively new schools (those opening in 2011 or more recently) were identified by the unique building or school ID codes assigned by the relevant state education agencies. We selected online schools with enrollment of more than 10 students.² Careful restriction of schools to be included allows for more confidence in attributing various outcomes to specific types of schools.

In applying selection criteria, we identified scores of virtual schools or programs that did not meet our criteria. In preparing our first report, we initially identified close to 100 schools that we eventually excluded because no enrollment data was available, or because we determined that they were based in traditional schools and data could not be disaggregated. This year, the same was true for additional 62 schools.

The primary sources for total enrollment and school performance data were state-level datasets and school report cards for the 2012-13 school year. Data for grade level enrollment, race-ethnicity and sex were obtained from NCES and represent the 2010-11 school year, which is the most recent data available.

Aggregated data reflect weighted averages based on enrollment. That is, averages have been calculated so that the influence of any given school on the aggregated average is proportional to its enrollment. Comparisons were made to norms for all public schools in the United States.

Limitations

There are several general limitations that readers should keep in mind.

Incomplete demographic data. The tables in the appendices have several gaps that reflect missing data. Some states combine virtual school data with local district data in ways that make disaggregation impossible. For example, while data on student ethnic background and on free-and-reduced-price lunch status are rather complete, the special education data are not. This was particularly problematic in states where charter schools are not considered Local Education Authorities or districts, and thus did not have a legal responsibility to provide special education services. Also, some states combine charter

school data with local district data, which makes it impossible to parse the numbers for only full-time virtual schools.

Comparison groups. National aggregate results for all public schools provide the base for several comparisons in this report, which profiles virtual schools in 30 states. While comparisons of two inherently different forms of schooling, each representing different geographic datasets, have some obvious weaknesses, national aggregate data is what state and federal agencies typically use in their reports and comparisons. Following the agencies' lead is intended to allow reasonable comparison of this report with others. An additional consideration is that, because the 30 states represented are among the nation's largest and most densely populated, the national comparison is informative, if not perfect. It is perhaps also worth noting that the national data include data for full-time virtual schools, although it constitutes a relatively small subset.

Instability in virtual schools. Full-time virtual schools are rapidly evolving; currently, the number of such schools, their demographic composition, and their performance data could vary from the 2010-11 demographic data and the 2012-13 performance data presented here (the most recent available for each category). When the fluidity of the terrain is layered onto the scope of this attempt to compose a national portrait, some errors of inclusion and exclusion seem likely. Documented corrections to the data in the appendices are welcome and can be submitted to the authors through the National Education Policy Center.

Growth and Current Scope of Full-Time Virtual Schools

While many types of online learning are expanding, full-time virtual schools are experiencing notable growth. They are not simply a means to supplement and expand the courses available in traditional brick-and-mortar schools. Instead, they are being used to expand school choice, concurrently advancing privatization, entrepreneurism and private financial investment. With key providers lobbying legislatures vigorously and national organizations promoting school choice, virtual schooling now has a firm foothold: 30 states and the District of Columbia allow full-time virtual schools to operate, and even more states allow, or in some cases require, one or more courses to be delivered online to public school students. Appendix B details student enrollment by state.

For the 2012-13 academic year, we identified 338 full-time virtual schools,³ enrolling over 243,000 students (see Appendix C for a list of identified schools). This number represents 21.7% increase in enrollment from 2011-12, when 311 schools were included and these enrolled just under 200,000 students. Some 27 schools included in our 2011-12 figures were excluded in 2012-13 because they no longer met inclusion criteria; for example, some closed, others reported no enrollment. In 2012-13, we identified an additional 54 new full-time virtual schools that met our inclusion criteria, and this brought the total number of full-time virtual schools up to 338.

Frequently, full-time online schools are organized as charter schools and operated by private EMOs. In total 44% of all full-time virtual schools were operated by private EMOs and they account for 72% of all enrolled students. This is an increase in market share

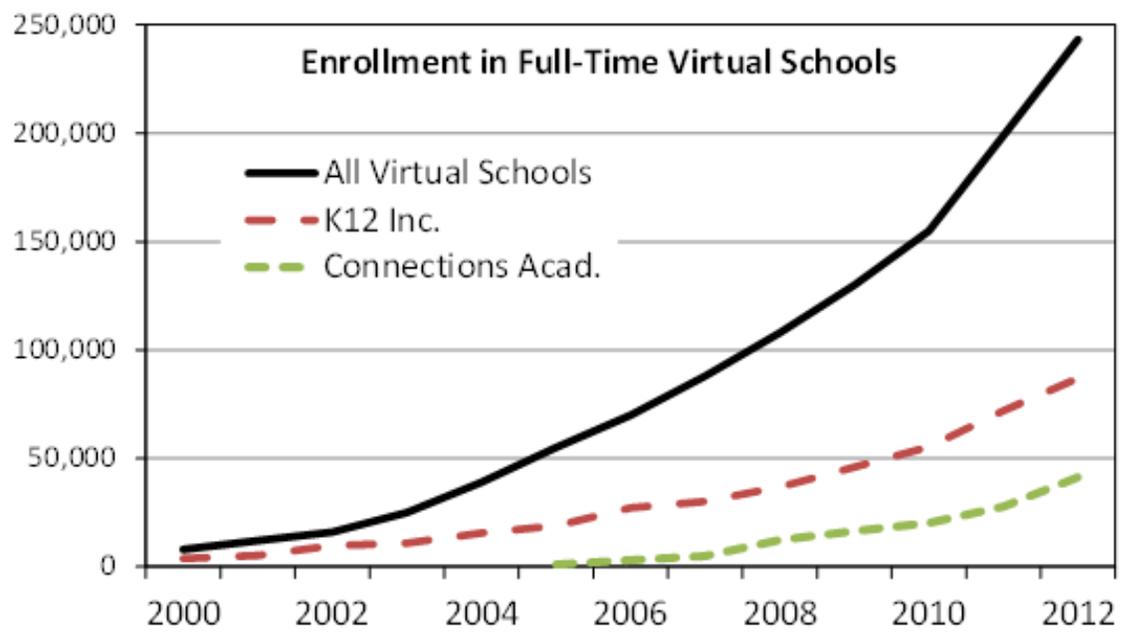


Figure 3.1. Estimated Enrollment Trends in Full-Time Virtual Schools

controlled by private EMOs since 2011-12, when they operated 41% of all virtual schools and enrolled 67% of students. In addition to the schools that are directly operated by private EMOs, it is worth noting that many district-operated virtual schools hire the large private EMOs to provide curriculum, a web-based learning platform, and other select services. Among the schools in this inventory, 64% are charter schools and 36% are operated by districts or—in a few instances—by state agencies. This distribution of schools between charters and districts is unchanged.

Figure 3.1 illustrates the estimated enrollment growth in full-time virtual schools over the last 12 years. Estimates for 2000 to 2010 are based on two sources, the annual *Profiles of For-Profit and Nonprofit Education Management Organizations* from NEPC, and the annual *Keeping Pace* reports from Evergreen Education, a consulting group that prepares reviews of policy and practice for online learning. The International Association for K-12 Online Learning (iNACOL) typically reports much higher estimates, but those estimates seem to include other types of virtual instruction—blended or hybrid schools, for example.

Figure 3.1 also illustrates the proportion of students in full-time virtual schools enrolled in schools operated by K12 Inc. and Connections Academies, the two largest for-profit EMOs. K12 Inc. schools account for 36% of all enrollments in full-time virtual schools, and Connections Academies account for 17% of all enrollments. Together, these two companies account for 53% of all enrollments in 2012-13. Their overall percentage of full-time virtual school enrollments has been increasing gradually each year.

Although virtual schools still account for a relatively small portion of the overall school choice options in the U.S., they now constitute one of the fastest-growing forms of school

choice. It is important to note that virtual schools, as a category of school choice, overlap with both homeschooling and charter schools. Most virtual schools are organized as charter schools, although an increasing number of district and state education agencies are now starting full-time virtual schools.

Table 3.1. Numbers of Virtual Schools and Students in 2012-13

	Schools	Students	Percent of all Enrollment	Average Enrollment Per School
For-profit EMO	138	169,694	69.74%	1,230
Nonprofit EMO	11	5,167	2.12%	470
Independent	189	68,466	28.14%	362
Total	338	243,327	100%	720

Private for-profit EMOs have played an important role in expanding the number of virtual schools, operating 95 on behalf of charter school and district school boards in 2011-12, and 138 in 2012-13 (see Table 3.1), an addition of 43 schools in a single year. K12 Inc. is by far the largest EMO in this sector. In 2011-12, K12 Inc. alone operated 81 full-time virtual schools enrolling just under 86,000 students. Connections Academies is the second largest for-profit operator, with 25 schools and more than 41,000 students in 2011-12. Note that we include here only those schools where the provider has full control and responsibility for the virtual school and its educational program. The role of some large for-profit EMOs in public virtual schools is actually larger than illustrated here, because many of the district-operated virtual schools subcontract to K12, Inc. and Connections Academies to provide online curriculum, the learning platform, and other support services. In contrast, nonprofit EMOs showed only a small increase: only two full-time virtual schools, from 9 in 2011-12 to 11 in 2012-13. Most of the growth in full-time online offerings, then, is due to expansion in the for-profit sector.

Individual online schools operated by the for-profit EMOs are very large, with an average enrollment of 1,230 students (Table 3.1). In contrast, the average enrollment in the schools operated by nonprofits was considerably smaller, 470 students per school. Independent virtual schools (those public virtual schools with no private EMO involvement) have the smallest average school size, 362 students per school.

A number of other EMOs have emerged to operate full-time virtual schools, such as Insight Schools and Kaplan Virtual Education—but K12 Inc. has now acquired these two for-profit companies. The largest nonprofit EMO, Roads Education Organization, operates only four full-time virtual schools. More expansion is coming from some EMOs that formerly operated only brick and mortar schools but are now expanding to include full-time virtual schools. These include Edison Schools Inc., Leona Group LLC., Mosaica Inc., and White Hat Management. Given the relatively lucrative circumstances⁴ under which full-time

virtual schools can operate, it is likely that more for-profit EMOs will be expanding their business models to include full-time virtual schools.

Student Characteristics

To provide context for school performance data comparisons discussed later in this report, following is an analysis of student demographics.

Race-Ethnicity

Aggregate data from full-time virtual schools look rather different from national averages in terms of student ethnicity. Three-quarters of the students in virtual schools are white-non-Hispanic, compared with the national mean of 54%

(see Figure 3.2). The proportion of Black and Hispanic students served by virtual schools is noticeably lower than the national average. Only 10.3% of the virtual school enrollment is Black while 16.5% of all public school students are Black. An even greater discrepancy is found among Hispanic students, who comprise only 11% of the virtual school students but 23.7% of all public school students. Because virtual schools have a large

presence in states with large Hispanic populations, such as Arizona, California, and Florida, this finding is surprising. It appears that virtual schools are less attractive to Hispanics, or perhaps that virtual schools are doing less outreach or marketing to this population. This may also be due to evidence that suggests lower success rates for minority populations in online schooling.⁵ The data we collected from state sources for 2011-12 and 2012-13 was more incomplete than the 2010-11 data collected from the National Center for Education Statistics (NCES).⁶ Nevertheless, the distribution of students by race/ethnicity was largely unchanged except for a slight (2-3 percentage points) increase in minority students.

Sex

While the population in the nation's public schools is nearly evenly split between girls and boys, the population of students in virtual charter schools overall skews slightly in favor of

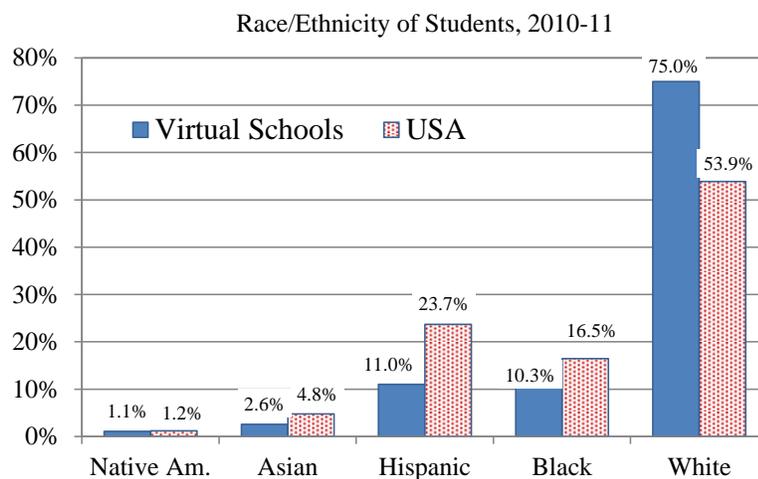


Figure 3.2. Race/Ethnicity of Students in Virtual Schools Compared with National Averages, 2010-11

girls (52.5% girls and 47.5% boys) (see Figure 3.3). Virtual schools catering to students in elementary and middle school tend to be more evenly split between boys and girls, but high schools are likely to have a larger proportion of boys. Charter schools and for-profit EMO-operated schools tend to have slightly more girls than boys enrolled, while the district-run virtual schools tend to be more even distribution.

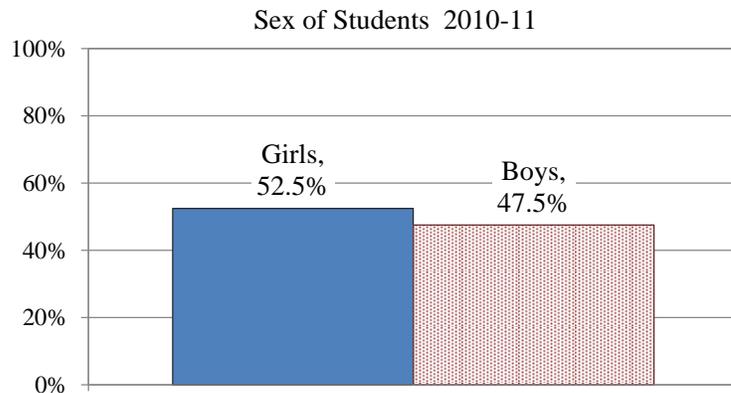


Figure 3.3. Sex of Students in Virtual Schools, 2010-11

Free and Reduced-Price Lunch, Special Education, and English Language Learner Status

As illustrated in Figure 3.4, the proportion of students in full-time virtual schools who qualified for free or reduced-price lunch (FRL) was 10 percentage points lower than the average in all public schools in 2010-11: 35.1% compared with 45.4%. Of those virtual schools reporting data, 13% enrolled a higher percentage of FRL students than the national average, while 87% of reporting schools indicated a lower percentage. The data available after 2010-11 is more incomplete, although it suggests that the proportion of FRL students in virtual schools has increased a few percentage points. In general, virtual schools continue to serve a noticeably lower percentage of economically disadvantaged students than other public schools.

Figure 3.4 also illustrates the representation of students classified as special education, indicating they have a disability as well as a recorded Individualized Education Plan (IEP). Overall, the proportion of students with disabilities in virtual schools is around half of the national average, or 7.2% compared with 13.1%. Only 92 schools reported special education data in 2010-11 and the available data in subsequent years is even more incomplete. Just

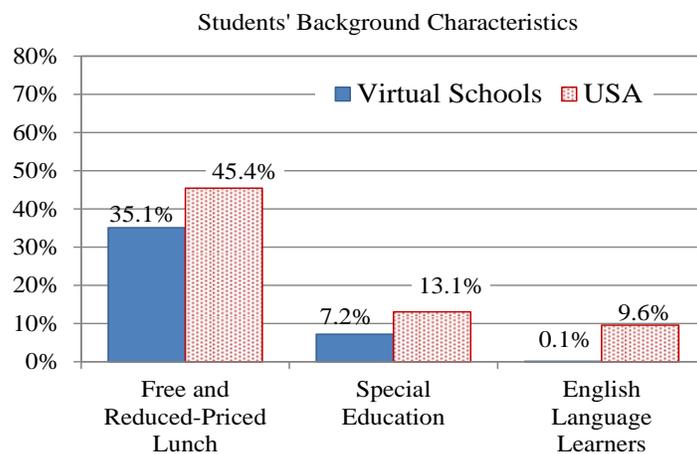


Figure 3.4. Students Qualifying for Free and Reduced-Priced Lunch, Classified as Special Education, or Classified as English Language Learners

over 11% of the virtual schools reported having a higher proportion of students with disabilities than the national average, while 88.5% had a lower than average proportion of students with disabilities.

Given that charter schools overall usually have a substantially lower proportion of students with disabilities compared with district schools or state averages, one might expect an even greater difference in virtual school enrollments because it seems more difficult to deliver special education support via the Internet. However, it may be that the populations of students with disabilities in virtual and traditional public schools differ substantively in terms of the nature and severity of students' disabilities. Past research has established that traditional public schools typically have a higher proportion of students with moderate or severe disabilities, while charter schools have more students with mild disabilities that are less costly to accommodate.⁷

English language learners represent a growing proportion of students in the nation's schools, especially in the states served by virtual schools. However, only 0.1% of full-time virtual school students are classified as English language learners (ELLs). This is a strikingly large difference from the 9.6% national average (Figure 3.4). None of the virtual schools had higher proportions of ELLs than the national average, and the ELL student enrollment of most virtual schools with data available was less than 1%. There are no clear explanations for the absence of students classified as English language learners in virtual schools. One possible explanation could be that the packaged curriculum is only available in English; another possible explanation might be that instructors have insufficient time to support these students.

Enrollment by Grade Level

The National Center for Education Statistics has four school level classifications, as indicated in Figure 3.5. More than half of virtual schools are designed or intended to enroll students from kindergarten to grade 12 (and so are in the Other Grade Configurations category). Ten percent are designated as primary schools, less than 2% as middle schools, and 29% as high schools. While this classification system is generally useful for describing traditional public schools, it is less useful for categorizing charter schools that often have grade configurations that span primary, middle, and high school levels. This classification also has limitations in

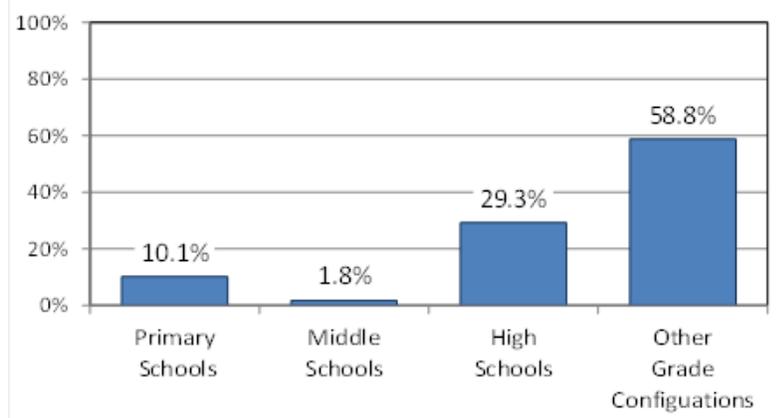


Figure 3.5. Distribution of Virtual Schools by School Level

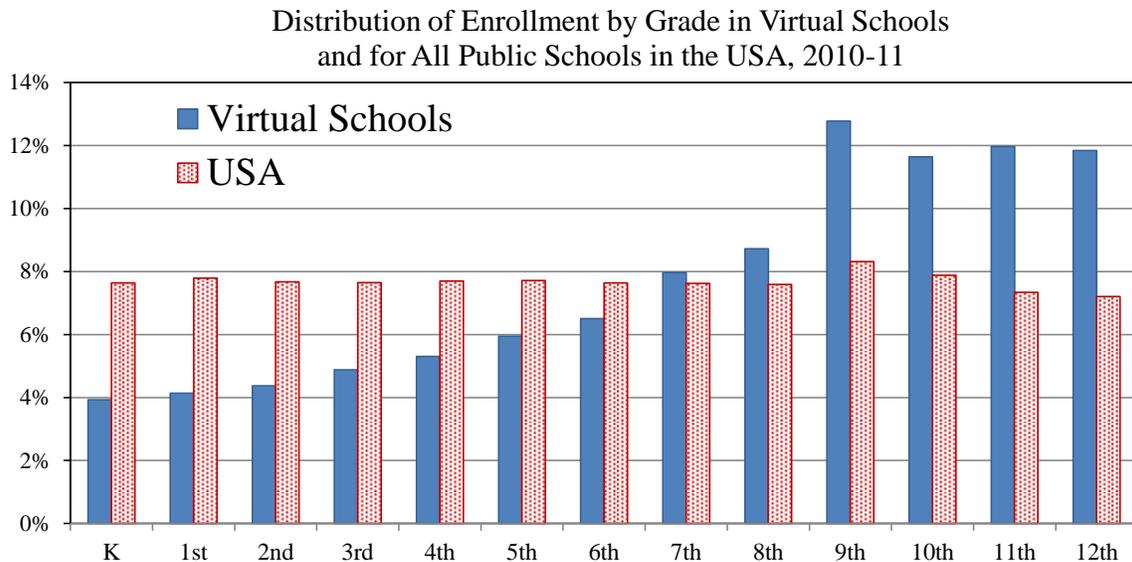


Figure 3.6. Enrollment by Grade Level for Virtual Schools and U.S., 2010-11

representing the distribution of students in charter schools since many of these schools have permission to serve all grades but actually only enroll students in a more limited array of grades.

To more accurately display the distribution of students in virtual schools, we used actual student enrollment data by grade, obtained from the National Center for Education Statistics. Figure 3.6 depicts the enrollment distribution of students in virtual schools by grade level, compared with national averages. A disproportionate number of students are in high school, where the enrollment drops off sharply after ninth grade. This picture differs from the national picture, where a comparatively equal age cohort is distributed evenly across grades, with a gradual drop from grades 9 to 12. In addition, the national population shows a slight increase at grade 9, due to some students not obtaining enough credits to be classified as 10th graders. Starting in grade 10, however, the enrollment per grade decreases slightly, reflecting the nation’s dropout problem.

Student-Teacher Ratios

The data available on student to teacher ratios is incomplete and—given the extreme variations reported from year to year—erratic. We were able to obtain student to teacher ratio data from 55% of the virtual schools in 2012-13. This data was obtained from state education agencies and from school report cards.

While the average student-teacher ratio is approximately 15 students per teacher in the nation’s public schools, virtual schools report more than twice as many students per teacher. Virtual schools operated by for-profit EMOs report the highest student-teacher ratio (37 students per teacher), and the virtual schools operated by nonprofit EMOs have

the lowest student teacher ratio (17.3 students per teacher). The raw data shows considerable outliers, with some virtual schools reporting only 1 student per teacher and 17 schools reporting 10 or fewer students per teacher. On the other extreme, 3 schools reported having 200 or more students per teacher and 17 schools reporting having more than 55 students per teacher

School Performance Data

This section reviews key school performance indicators, including Adequate Yearly Progress (AYP) status, state ratings, and on-time graduation rates. Comparisons across these measures suggest that virtual schools are not performing as well as brick-and-mortar schools. The findings also reveal that virtual schools operated by private EMOs are not performing as well as public virtual schools with no private EMO involvement.

Adequate Yearly Progress and State Ratings Assigned to Virtual Schools

Adequate Yearly Progress (AYP) and state school performance ratings were obtained from state sources or directly from school report cards. Although these are weak measures of school performance, they provide descriptive indicators that can be aggregated across states.

AYP is essentially intended to demonstrate whether or not a public school meets its state standards. However, it is a relatively crude indicator that covers academic as well as non-academic measures, such as school attendance and the percentage of students taking a state exam. To date, 42 states including Washington D.C. have received ESEA waivers on the federal goal of 100 percent proficiency by 2014. Such waivers have allowed 28 states with virtual schools to discontinue the use of state-determined AYP standards in 2012-13. California and Iowa are the only two states with full-time virtual schools that reported results based on AYP.

In the 2010-2011 school year, when most states were still reporting AYP status, there was a

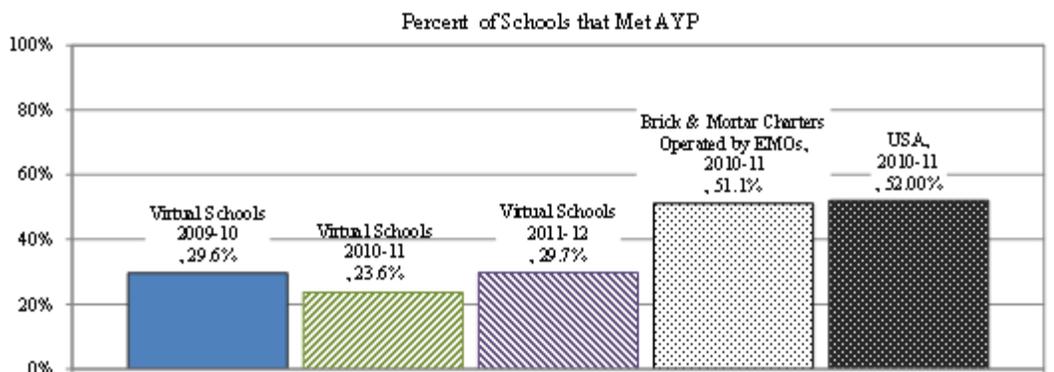


Figure 3.7. Percentage of Schools Meeting Adequate Yearly Progress, by School Type and Year

28-percentage point difference between full-time virtual schools meeting AYP and traditional brick-and-mortar district and charter schools that did: 23.6% compared with 52%, respectively. Although the virtual school average was higher in the other two years, as illustrated in Figure 3.7, the gap in AYP between virtual and traditional schools has recently hovered around 22 percentage points, offering no evidence of an improvement trend. This suggests that the need for more time to meet goals may not be a sufficient explanation for the large difference.

In addition, AYP ratings were substantially lower for virtual schools managed by EMOs than for brick-and-mortar schools managed by EMOs: 29.6% compared with 51.1%.

One should be cautious in drawing conclusions from such an imperfect measure, and one should be cautious in interpreting differences among groups of schools. At the same time, it appears evident that extremely large differences, such as the 22 percentage point difference between full-time virtual schools and brick-and-mortar schools meeting AYP, warrants further attention.

In the 2012-13 school year, we had AYP status for only California and Iowa. In California, only 5 of 36 (14%) full-time virtual schools met their AYP targets. The percent of traditional public schools that made AYP in California in that year was 10% for elementary schools, 6% for middle schools, and 27% for high schools. On the other hand, Iowa's first two full-time virtual schools, Iowa Connections Academy and Iowa Virtual Academy (K12 Inc.), which opened in 2012-13, both met state AYP targets.

Of course, there are variations among individual schools and companies represented in the virtual school cohorts discussed here. A few operators of full-time virtual schools have particularly dismal results. For example, only 5% of the virtual schools operated by White Hat Management met AYP in 2011-12.

With new waivers from NCLB/ESEA requirements, 28 states with full-time virtual schools have developed new annual measurable objectives (AMOs) that are used to measure and report school performance. Such measures vary considerably from state to state. Ten states use a total weighted index score (which determines the school's letter grade or star rating) from lowest to highest. Letter grades, in particular, are used in the following states: Alaska, Arizona, Idaho, Indiana, Ohio, Pennsylvania, Oklahoma, South Carolina, Nevada, and Minnesota. Other states use a variety of measures that are then combined to arrive at an overall evaluation of school performance. Categories of performance are based on postsecondary and workforce readiness, academic growth gaps, academic growth, and academic achievement. Only 78 of the 338 full-time virtual schools received ~~assigned~~ an acceptable annual accountability rating by state education authorities. Independent virtual schools that do not have EMOs were more likely to receive an acceptable rating than virtual schools operated by private EMOs: 36% compared with 31.18%.

In total, only 78 out of 231 virtual schools with ratings in 2012-13 were academically acceptable (33.77%). A total of 100 full-time virtual schools (or 30% of all virtual schools in 2012-13) did not receive any state accountability/performance ratings. Florida

accounted for the largest share of virtual schools with no measures of school performance, followed by Ohio and Wisconsin.

Next, we compared the academic performance of full-time virtual schools for 2011-12 and 2012-13 school years using three possible ratings: academically acceptable, academically unacceptable, and not rated. One should be cautious in drawing conclusions from such an imperfect measure based on only two consecutive years of school-level performance. The 2011-12 state ratings compared a school's performance level in one year to a single proficiency target; thus, such ratings promoted limited outcomes. However, new annual accountability ratings go beyond AYP requirements for NCLB and include a wider variety of measures, such as college-readiness, academic growth, and academic performance in additional tested subjects. Such ratings are being used to hold public schools accountable, and they serve as the base for determining whether a school merits corrective or punitive action. Given the rapid growth of full-time virtual schools in states such as Florida, Ohio and Wisconsin, it will be critical to determine why so comparatively few virtual schools received a state rating—especially since they appear to enroll fewer students making greater demands on schools, such as English language learners.

Table 3.2. Percentage of Virtual Schools with Acceptable School Performance Ratings, 2011-12 and 2012-13

	2011-12: All Virtual Schools that received ratings N=228	2012-13: All Virtual Schools that received ratings N=238	2011-12: Results for Subgroup of Virtual Schools that had Ratings in both Years N=176	2012-13: Results for Subgroup of Virtual Schools that had Ratings in both Years N=176
For-profit EMO	18.5%	31.9%	17.6%	31.1%
Nonprofit EMO	50.0%	22.2%	57.1%	28.6%
Independent	32.6%	36.7%	30.5%	31.9%
Total	28.1%	34.2%	26.1%	31.4%

At the same time, it appears evident that large differences in school accountability ratings between EMO-managed full-time virtual schools and independent virtual schools (i.e., no EMO involvement) for two consecutive years warrants further attention. Table 3.2 details state School Performance Ratings for the two most recent school years.

While AYP is not designed to reward growth, a concern of advocates of value-added testing, the fact that it was used to hold public schools accountable and to justify imposing sanctions makes it viable as a comparative measure. To supplement admittedly imperfect AYP data, Table 3.2 details aggregated data from State School Performance Ratings from the two most recent years. (State ratings for individual virtual schools appear in Appendix

C). State rating categories vary considerably: some assign letter grades, for example, while others report whether or not a school is in corrective status, and if so, what point in the corrective process it has reached. Often, state ratings are based on a variety of measures, with some states including gains for students in the school for a year or more. In order to aggregate the ratings across states, we classified the ratings that virtual schools received as either “acceptable” or “unacceptable” based on guidance provided by state education agencies. We were then able to aggregate findings within and across states. Ratings were available for 228 out of 306 virtual schools included in the inventory in 2011-2012. For 2012-2013, there were state performance ratings for 231 out of the 338 school included in the inventory.

There were modest improvements in the overall percentage of virtual schools that received acceptable ratings in each of the two years; 28.1% had acceptable state ratings in 2011-12, and 34.2% had acceptable ratings in 2012-13. Even though there was an improvement, the vast majority of full-time virtual schools (65.8%) were still not rated academically acceptable in 2012-13. Because some schools closed and some new schools opened, and also because some schools did not receive a state performance rating in both years, we analyzed the subgroup of 176 virtual schools that had a state performance rating in both years (see the last two columns in Table 3.2). Here we can see a similar pattern with modest improvements in the proportion of schools that received an acceptable state performance rating. The virtual schools operated by for-profit EMOs fared worst in 2011-12, but by 2012-13 their performance improved and was similar to the other two comparison groups (nonprofit EMOs, and independent virtual schools).

The ratings for the virtual schools operated by nonprofit EMOs showed considerable change between the two years. However, such extreme change in percentages may be explained by the fact that there are so few schools in that category that had ratings (6 nonprofit EMO virtual schools in 2011-12, and 7 in 2012-13). It is also important to remember that a large number of virtual schools overall do not have state ratings: 81 virtual schools (26.5%) lacked ratings in 2011-12, and 100 (29.6%) lacked ratings in 2012-13. With one out of every three or four full-time virtual schools not represented in this analysis, caution in interpreting findings is in order.

Given the rapid growth of full-time virtual schools, it is critical to determine why so comparatively few meet AYP or achieve acceptable State Performance Ratings—especially since they appear to enroll fewer students who make greater demands on schools, like English language learners. Similarly, it is critical to determine why so many are not receiving state performance ratings at all.

Graduation Rates

In recent years, schools and states have been standardizing how they record and report graduation. The measure widely used today is “On-Time Graduation Rate,” which refers to the percentage of all students who graduate from high school within four years after they started 9th grade. This analysis, reported in Figure 3.8, spans the four years from 2009-10 to 2012-13. Only 157

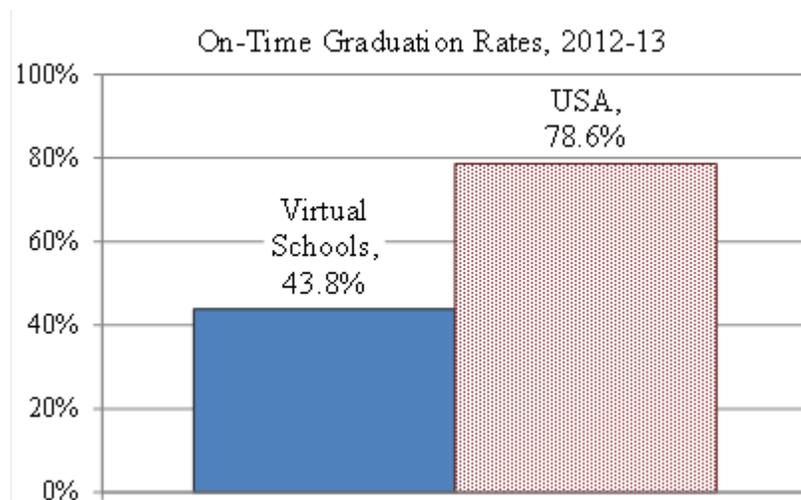


Figure 8. Mean Graduation Rates for Virtual Schools

virtual schools reported a score related to on-time graduation in 2012-13. This is a slight improvement from last year, but it is still surprisingly low. The large number of virtual schools not reporting a graduation rate is partially due to the fact that some of these schools do not serve high school grades; others are relatively new and have not had a cohort of students complete grades 9-12. Even so, the number seems low in light of the large enrollment reported for grades 9-12.

As Figure 3.8 illustrates, the on-time graduation rate for the full-time virtual schools was a little more than half the national average: 43.8% and 78.6%, respectively—an improvement of 6 percentage points compared with results for 2011-12. The evidence on graduation rates remains inconclusive because so many schools have not reported rates, but it is in line with the findings on AYP and state school performance ratings. Despite the limited data, this is an important outcome measure that contributes to the overall picture of school performance.

Discussion

Our analyses indicate that full-time virtual schooling is growing rapidly, with growth largely dominated by for-profit EMOs, particularly K12 Inc. and Connections Academies. While these schools have potential for facilitating long-distance learning and cutting costs, the consistently negative performance of full-time virtual schools across all school performance measures makes it imperative to know more about these schools. The advocates of full-time virtual schools are several years ahead of policymakers and researchers, and new opportunities are being defined and developed largely by for-profit entities accountable to stockholders rather than to any public constituency.

Advocates of virtual schools may argue that the limitations in our data mean that findings such as those we share in this report are not definitive. We agree with this position. Nevertheless, even though the outcome measures available are not as rigorous as desired

and even though the data reported by virtual schools is not as complete as they should be, the findings still reveal that across all school performance measures, most virtual schools are lacking. There is not a single positive sign from the empirical evidence presented here. Given this picture, continued rapid expansion seems unwise. More research is needed; and to enable such research, state oversight agencies need to require more, and better refined, data.

Recommendations

Given the rapid growth of virtual schools, the populations they serve, and their relatively poor performance on widely used accountability measures, it is recommended that:

- Policymakers should slow or stop growth in the number of virtual schools and the size of their enrollment until the reasons for their relatively poor performance have been identified and addressed.
- Given that all measures of school performance indicate insufficient or ineffective instruction, these virtual schools should be required to devote resources toward instruction, particularly by reducing the ratio of students to teachers.
- State education agencies and the federal National Center for Education Statistics should clearly identify full-time virtual-schools in their datasets, distinguishing them other instructional models. This will facilitate further research on this subgroup of schools.
- State agencies should ensure that virtual schools fully report data related to the population of students they serve and the teachers they employ.
- State and federal policymakers should promote efforts to design new outcomes measures appropriate to the unique characteristics of full-time virtual schools.

Appendices to Section III

Appendix B: Numbers of Full-time Virtual Schools and the Students They Serve by State

Appendix C: Measures of School Performance: State Performance Ratings, Adequate Yearly Progress Status, and Graduation Rates.

The Appendices are available for download as PDF files at

<http://nepc.colorado.edu/publication/virtual-schools-annual-2014>.

Notes and References: Section III

1 For example, school districts or schools offer online courses to cut costs or attract students from other schools/districts/states. These are not actually schools in the sense that they offer the complete state-mandated curriculum; they are just basically individual courses that students can take if they want to. Such a program would never receive an NCES ID no matter how many students enroll in these online courses because it's not a school.

2 See notes in the appendices for more details regarding inclusion criteria.

3 To be included in this inventory and considered in our analyses, a virtual school has to meet our selection criteria. First of all, it must be classified as a school and not a program. For example, it must be classified as a functioning school and not just a collection of individual optional courses. Online courses offered by school districts or schools to cut costs or attract students from other schools/districts/states, as referred to in Note 1, are therefore not included..

Additionally, when separating programs from schools, we look for the existence of unique NCES or State Education Agency ID codes that are designated for school units. We exclude hybrid schools, and we avoid schools that have both face-to-face instruction and virtual instruction. Further, in order to be included in our inventory, these virtual schools should have evidence of at least 10 students enrolled. An important part of our analyses examines school performance; by including only full-time virtual schools, we are better able to attribute school performance outcomes to full-time virtual schools.

4 Marsh, R.M., Carr-Chellman, A.A., & Stockman, B.R. (2009). Why parents choose cybercharter schools. *TechTrends* 53(4).

Woodard, C. (2013, July 3). Special Report: The profit motive behind virtual schools in Maine. *Portland Press Herald*. Retrieved February 28, 2014, from http://www.pressherald.com/news/virtual-schools-in-maine_2012-09-02.html.

5 Comparisons with demographic composition of charter schools in the nation is also relevant since the virtual schools that enroll most students are charter virtual schools. Thirty-six percent of all charter school students are white, 29.2% are black, 27.2% are Hispanic, 3.5 are Asian, and 3.2% are classified as “other.”

6 Data on ethnicity is from 2010-11, the most recent year from which we could obtain NCES data. The NCES provides the most comprehensive data, all from a single audited source. We obtained more incomplete data on race/ethnicity, sex, free- and reduced-price lunch status, English Language Learner status, and special education status for 2011-12 and 2012-13 from state sources and from school report cards. The figures we present are based on the most complete data source, the NCES 2010-11 data. We comment in the narrative when we see noticeable differences from the data we have collected in subsequent years.

7 Bordelon, S. J. (2010). Making the grade? A report card on special education, New Orleans charter schools, and the Louisiana charter schools law. *Loyola Journal of Public Interest*.

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