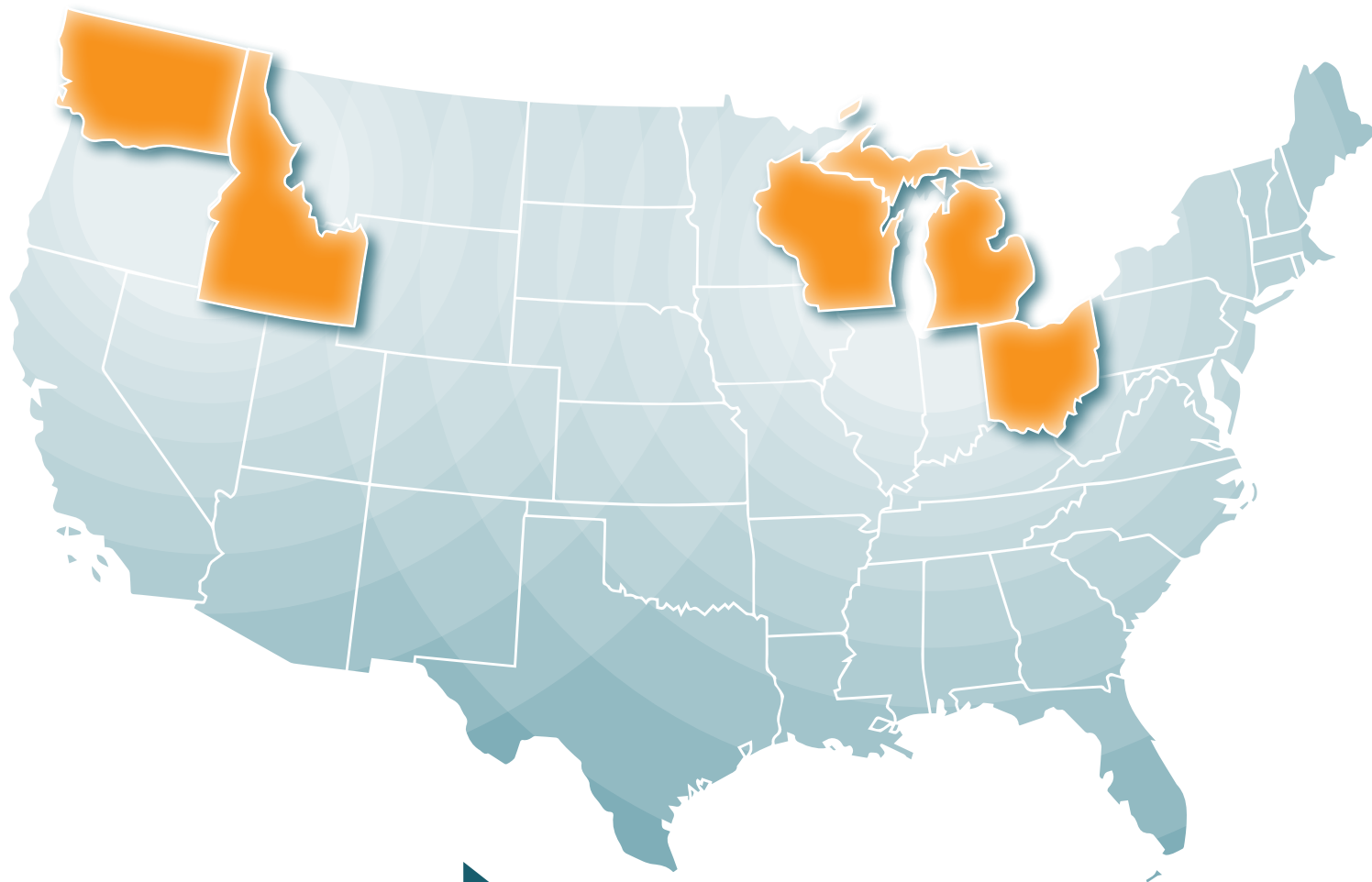


Virtual Schools in the US:

Case Studies of Policy, Performance, & Research Evidence

June 2017



Written By:

Michael K. Barbour, Touro University, California
Gary Miron, Western Michigan University
Luis Huerta, Teachers College, Columbia University



MICHIGAN VIRTUAL LEARNING
RESEARCH INSTITUTE

About Michigan Virtual Learning Research Institute

In 2012, the Governor and Michigan Legislature passed legislation requiring *Michigan Virtual University*® (MVU®) to establish a center for online learning research and innovation, and through this center directed MVU to work on a variety of projects. The center, known formally as *Michigan Virtual Learning Research Institute*® (MVLRI®), is a natural extension of the work of MVU. Established in 1998, MVU's mission is to advance K-12 education through digital learning, research, innovation, policy, and partnerships. Toward that end, the core strategies of MVLRI are:

- Research – Expand the K-12 online and blended learning knowledge base through high quality, high impact research;
- Policy – Inform local, state, and national public education policy strategies that reinforce and support online and blended learning opportunities for the K-12 community;
- Innovation – Experiment with new technologies and online learning models to foster expanded learning opportunities for K-12 students; and
- Networks – Develop human and web-based applications and infrastructures for sharing information and implementing K-12 online and blended learning best practices.

MVU dedicates a small number of staff members to MVLRI projects as well as augments its capacity through a Fellows program drawing from state and national experts in K-12 online learning from K-12 schooling, higher education, and private industry. These experts work alongside MVU staff to provide research, evaluation, and development expertise and support.

Suggested Citation: Barbour, M. K., Miron, G., & Huerta, L. (2017). *Virtual schools in the U.S.: Case studies of policy, performance, and research evidence*. Lansing, MI: Michigan Virtual University. Retrieved from <http://media.mivu.org/institute/pdf/VSCase-17.pdf>

Executive Summary

Over the last five years, the National Education Policy Center has published a *Virtual Schools in the U.S.: Politics, Performance, Policy, and Research Evidence* report. As an extension of the data collected for the *Virtual Schools in the U.S. 2017* report (Molnar et al. 2017), the lead authors produced case studies for five states (i.e., Ohio, Wisconsin, Idaho, Washington, and Michigan). The goal of these case studies was to describe the enrollment, characteristics, and performance of virtual and blended schools in that state over the previous year; discuss the research related to the virtual and blended school characteristics and outcomes, as well as the legislative activities; and examine the legislation and policies that have been introduced (and enacted) over the past two years.

These five case studies reveal a great degree of consistency between the different states. For example, most of the full-time virtual schools in each of the five states were independent (i.e., not run by EMOs). However, the vast majority of students attend a virtual school that is operated by an EMO. Virtual schools also had far more students for each teacher compared to traditional public schools. Further, virtual school students underperformed compared to their traditional public school counterparts. In addition to the similarities across the cases, when it came to student enrollment, student characteristics, and student performance, with the exception of Michigan there was a general lack of empirical research related to full-time virtual schools (and almost no research related to blended schools). Finally, with the exception of Idaho, there was also a general lack of legislative activity over the two years reviewed for this report.

Given that each of these five case studies was generated using data from the latest *Virtual Schools in the U.S.: Politics, Performance, Policy, and Research Evidence* report, it is important to examine the recommendations made by Molnar et al. (2017) based on the national data. However, based on the data from these five individual states, we recommend the following.

- Policymakers need to slow or stop the growth in the number of virtual schools and the size of their enrollments until the reasons for their relatively poor performance have been identified and addressed. They should prioritize understanding why virtual schools perform poorly under a college- and career-ready accountability system and how their performance can be improved prior to expansion.
- Policymakers need to create long-term programs to support independent research on and evaluation of virtual and blended schooling.
- Policymakers need to develop new funding formulas based on the actual costs of operating virtual schools and new accountability structures for virtual schools, including guidelines and governance mechanisms to ensure that virtual schools do not prioritize profit over student performance. Further policymakers need to assess the contributions of various providers to student achievement, and close virtual schools and programs that do not contribute to student growth.
- Policymakers need to define certification training and relevant teacher licensure requirements specific to teaching responsibilities in virtual schools, require research-based professional development to promote effective online teaching models, and work with emerging research to develop valid and comprehensive teacher evaluation rubrics that are specific to online teaching.

Introduction

The National Education Policy Center (NEPC) has published the annual *Virtual Schools in the U.S.: Politics, Performance, Policy, and Research Evidence* report since 2013 (Molnar et al. 2013, 2014, 2015, 2017; Miron & Gulosino, 2016). These annual reports, released each spring, are designed to analyze the performance of full-time, publicly funded K-12 online and blended schools; describe key policy issues raised by online and blended education; assess the research evidence that bears on K-12 online and blended teaching and learning; and provide research-based recommendations to help guide policymaking. The report is generally organized in three major sections:

- A descriptive census of full time online and blended schools and their expansion based on data gathered from state, corporate, and organizational sources. Details on enrollment include the student characteristics of race/ethnicity, sex, free and reduced lunch eligibility, special education designation, English language learner (ELL) status, and grade level. Other information includes student-teacher ratios. In addition, details on student achievement include Adequate Yearly Progress ratings, state ratings, and graduation rates.
- A review of the research relevant to online and blended schools.
- An examination of the policy and political landscape associated with online and blended schooling and description of the current state of affairs related to finance and governance, instructional program quality, and teacher quality.

It is important to note at this stage that the NEPC reports use the term ‘virtual school.’ There is a growing distinction within the field of K-12 online learning that virtual schooling generally refers to supplemental online learning, cyber schooling generally refers to full-time online learning, and K-12 online learning is the term generally used to refer to the field as a whole. However, when the NEPC first began their annual examination in 2013, these distinctions were not common. Additionally, many of the K-12 online learning programs sponsored or supported by Departments of Education were referred to as virtual schools. Similarly, much of the legislation and policy language used the term ‘virtual’ (i.e., virtual charter school). These are some of the reasons why the NEPC annual report was and has continued to be called the *Virtual Schools in the U.S.* report. As such, unless they are quoting specific language from a given piece of research, legislation, or policy, the authors continue to use the term ‘virtual schools’ to remain consistent with the history of these annual reports.

As an extension of the research conducted for the *Virtual Schools in the U.S. 2017* report (Molnar et al. 2017), the lead authors for each section proposed to the Michigan Virtual Learning Research Institute that they undertake a more in-depth analysis of five states (Ohio, Wisconsin, Idaho, Washington, and Michigan). The goal of this analysis was to produce case studies for each of these states. As this report was designed to be a companion to the original *Virtual Schools in the U.S. 2017* report, we described the methodology in detail in that earlier report. However, we also provide a brief outline of that process in the following section.

Methodology

The data for the ‘Enrollment, Student Characteristics, and Performance’ section of each case study was based on publicly available data, collected, audited, and warehoused by public authorities. In particular, data from the National Center for Education Statistics (NCES), specifically the Common Core of Data from NCES. Data was limited to schools that had a unique school ID code assigned by the NCES. As the NCES data is always one year older than state data, so if a school opened in 2015-16 it would not be in the NCES dataset. In these instances data from state-level datasets, and school report cards for the 2015-16 school year was examined if the state assigned a school or building code. It should be noted that only schools identified by an NCES or state assigned school code as being a virtual school or a blended school were included in the data. This meant that individual virtual or blended programs within a school or district were generally excluded because the data could not be disaggregated.¹

Next, the ‘Research’ section of each case study was based on a systematic review of the literature using, but not limited to, the following terms: K-12 online learning, K-12 distance education, virtual learning, virtual school, virtual schooling, cyber school, cyber charter school, cyber schooling, e-schools, blended schools, blended learning, and the individual state’s name. While a variety of terms related to K-12 online learning in general were used to identify potential sources, a specific focus was placed on literature for virtual schools (i.e., full-time online school consistent with the definition of virtual schools in the *Virtual Schools in the U.S. 2017* report) and blended school. It should also be noted that in each of the jurisdictions, except Michigan, there was a complete lack of reliable and valid research related to blended learning and blended schools. As such, the information contained in this section of the Ohio, Wisconsin, Idaho, and Washington case studies focuses almost exclusively on virtual schooling. As the unit of analysis for this section was the state level, individual research that may not have factored into national trends has been included to provide a more robust description of each individual case.

Finally, the ‘Key Policy Issues’ section of each case study was based on a comprehensive analysis of all proposed and enacted virtual school legislation in all 50 states during the 2015 and 2016 legislative sessions that were found by searching the National Conference of State Legislatures Legislative Tracking database using the keywords cyber, virtual, online, technology, non-classroom-based, distance learning, digital learning, and blended learning. As these search terms yielded a wide range of legislation, items focused on technology expansion in other public sectors were excluded, and only legislation specific to K-12 virtual education was included. However, even legislative activity related to K-12 virtual education was often broad in nature and include aspects related to supplemental and full-time online learning programs. As such, unlike the two previous sections, the data for this section was not exclusively focused on full-time virtual schools.²

¹ A full discussion of the methodology for this section can be found on pages 12-13 of Molnar et al. (2017).

² A full discussion of the methodology for this section can be found on pages 76-77 of Molnar et al. (2017).

Report Overview

The five case studies are presented in the following sections. Each case study begins with a brief overview of the current state of virtual schooling in the state based on the latest state profile produced by the *Keeping Pace with K-12 Digital Learning: An Annual Review of Policy and Practice* report. This overview is following by the same elements from the NEPC's *Virtual Schools in the U.S.: Politics, Performance, Policy, and Research Evidence* report:

- Enrollment, Student Characteristics, and Performance – a description of the enrollment, characteristics, and performance of virtual and blended schools in that state over the previous year,
- Research – a discussion of whether the legislative activities and school outcomes are consistent or inconsistent with what we know from the research, and
- Key Policy Issues – an examination of the legislation and policies that have been introduced (and enacted) over the past two years in that state.

The case studies begin with a discussion of Ohio, a jurisdiction with numerous virtual charter schools and no supplemental K-12 online learning programs. Next, we focus on Wisconsin as a state that has a range of opportunities from supplemental to full-time virtual schooling. This is followed by a review of Idaho, another jurisdiction with a strong supplemental K-12 online learning program and numerous virtual charter schools. Next, we examine Washington, another state with a wide range of K-12 online learning opportunities. We conclude our case studies with a consideration of Michigan, a jurisdiction that has a longstanding supplemental K-12 online learning program and, in recent years, has seen the proliferation of virtual charter schools. Finally, we provide some observations and recommendations based on these five cases.

Ohio

The most recent state profile from the *Keeping Pace with K-12 Digital Learning* report indicated that, “Ohio had 27 eCommunity schools that enrolled 39,044 fully online students in SY 2013–14, and 66 self-declared ‘blended’ schools” (Watson, Pape, Murin, Gemin, & Vashaw, 2014, p. 140). eCommunity schools or eSchools is the term used in Ohio to refer to virtual charter schools.

Enrollment, Student Characteristics, and Performance

Ohio had two virtual schools operating in 2008-09. These were small in size and only enrolled a total of 339 students. Virtual schooling increased exponentially in 2011-12 when the number of virtual schools grew from four to 27 with a total enrollment of 35,907 students. Since the 2011-12 school year, enrollments in Ohio virtual schools have demonstrated a few years with very low growth and then a small decrease (see Figure 1). There were five full-time blended learning schools in both 2014-15 and 2015-16, and these schools enrolled close to 900 students.

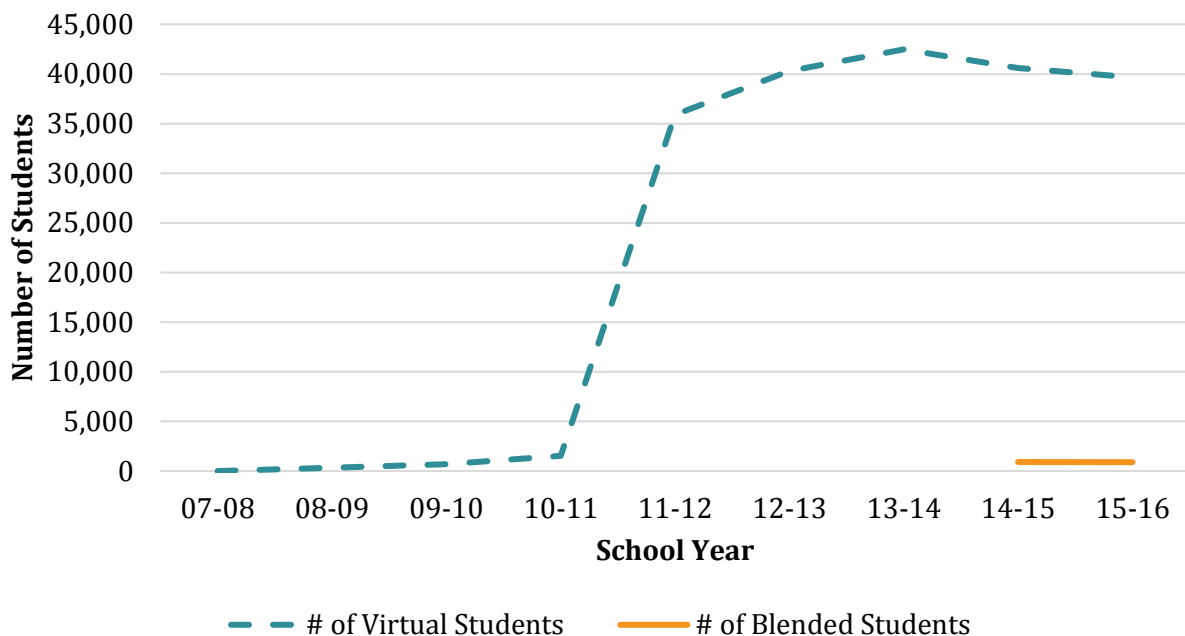


Figure 1. Enrollment in Ohio Virtual and Blended Learning Schools

Table 1 contains detailed data on the number of full-time virtual schools and the students they served, broken out by district or charter schools. The charter virtual schools were much larger in size and had more than 1,400 students on average, while the district virtual schools had, on average, 273 students per school. While charter virtual schools accounted for 88% of the virtual schools, they enrolled 98.6% of all virtual school students in Ohio.

Table 1. Distribution of Ohio Virtual Schools and Students across District and Charter Sectors, 2015-16

	# of Virtual Schools	% of Virtual Schools	# of Virtual Schools with Enrollment Data	# of Virtual Students	% of Virtual Enrollments	Average Enrollment Per School
District	4	11.8%	2	551	1.4%	276
Charter	30	88.2%	27	38,949	98.6%	1,443
Total for All Virtual Schools	34	100.0%	29	39,500	100.0%	1,362

Most of the virtual schools were independent, meaning that they had no private education management organization (EMO) that operates them. Table 2 depicts the breakout of virtual schools by operator. The district virtual schools were nearly all independent, although many of them had a vendor relationship with the large private EMOs; in other words, they contracted with the private EMOs to use their curriculum and learning platforms. Most of the charter virtual schools were started and operated by private EMOs. The three largest private EMOs working in Ohio were the Electronic Classroom of Tomorrow (ECOT), K12 Inc., and Connections Academy. Together, these three EMOs operated four schools that accounted for close to 72% of all virtual school students in Ohio. The one virtual school with a nonprofit EMO and the independent virtual schools (i.e., with no EMO) had relatively small average enrollments.

Table 2. Distribution of Ohio Virtual Schools and Students by Operator Status 2015-16

	# of Virtual Schools	% of Virtual Schools	# of Virtual Schools with Enrollment Data	# of Virtual Students	% of Virtual Enrollments	Average Enrollment Per School
Independent	25	73.5%	21	7,575	19.2%	361
Nonprofit EMO	1	2.9%	1	993	2.5%	993
For-profit EMO	8	23.5%	7	30,932	78.3%	4,419
<i>K12 Inc.</i>	2	5.9%	2	10,570	26.8%	5,285
<i>Connections Academy</i>	1	2.9%	1	3,446	8.7%	3,446
<i>ECOT</i>	1	2.9%	1	14,305	36.2%	14,305
Total for All Virtual Schools	34	100.0%	29	39,500	100.0%	580

Most students enrolled in Ohio virtual schools were concentrated at the high school level. Figure 2 depicts the number of students per grade level across all virtual schools. This figure also illustrates the number of schools that served students at each of the grade levels. While around 15 virtual schools served students in the primary level grades, more than 25 schools served students at the upper secondary grade levels.

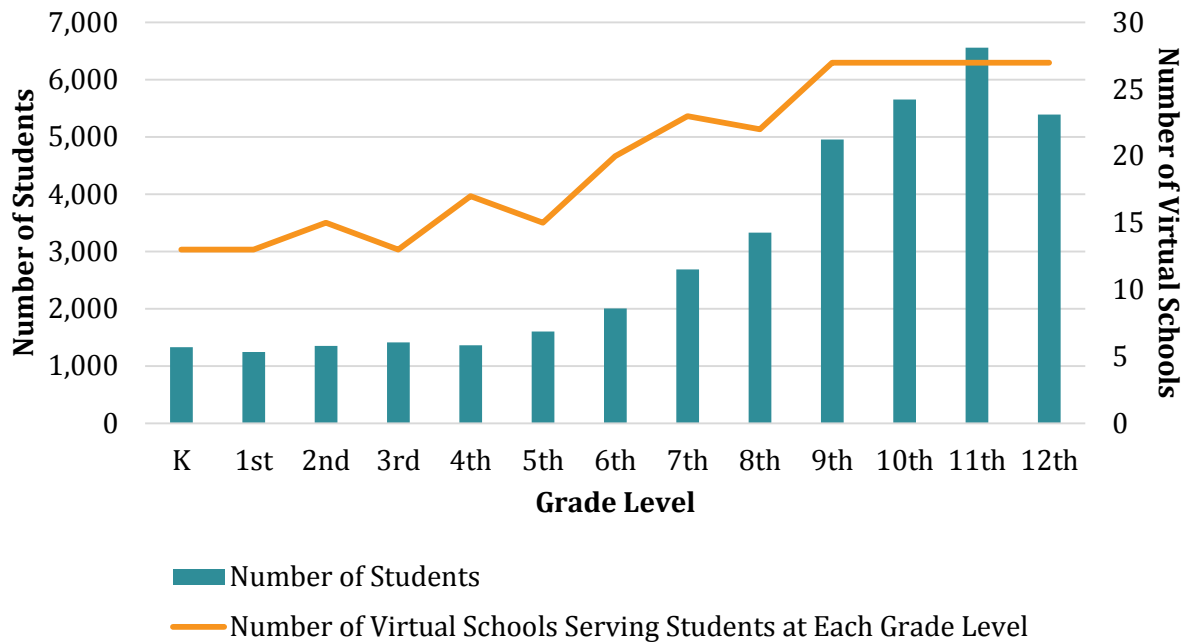


Figure 2. Number of Ohio Virtual School Students per Grade Level and Number of Schools that Offered Instruction at Each of the Grade Levels, 2014-15

White students made up just over 70% of the students in Ohio’s virtual schools compared with 71.9% for all public schools in Ohio. Interestingly, the five blended learning schools were comprised of a majority of black students (see Figure 3); this can be compared with 16.4% black students in Ohio public schools. Hispanic students and other minority students in both virtual and blended learning schools were consistent with Ohio data, but underrepresented compared to the national dataset.

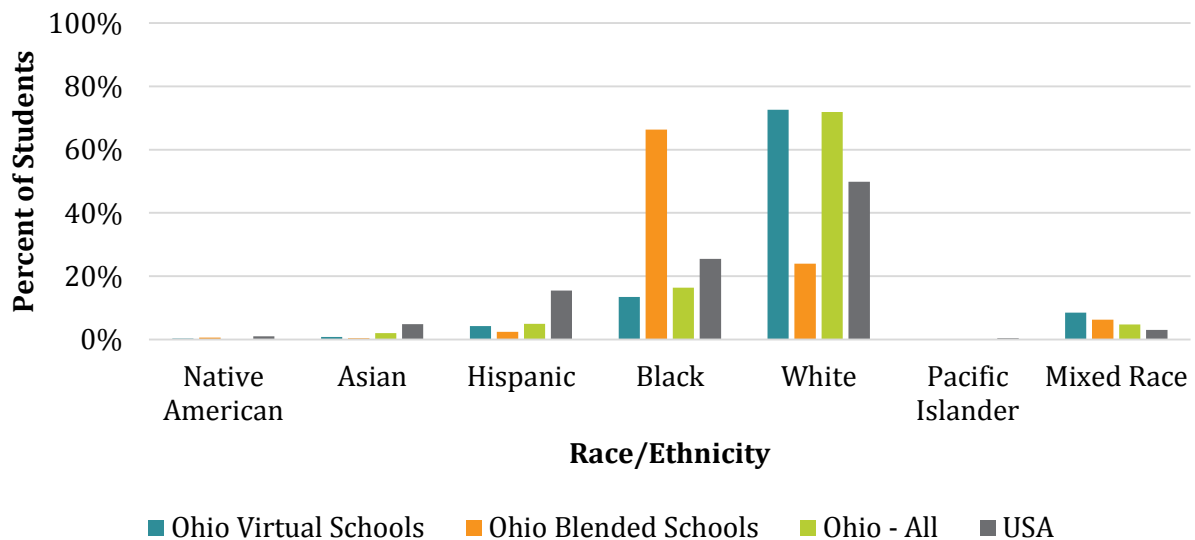


Figure 3. Race/Ethnicity for Students Enrolled in Ohio Virtual and Blended Learning Schools

Data on special education in virtual and blended learning schools included a number of rather extreme outliers as well as an absence of data for many schools. Recognizing these limitations, the virtual schools reported, on average, that 16% of their students had a disability while blended learning schools had 32% students with disabilities. This can be compared with 14.7% of students in Ohio public schools that were classified as having a disability.

The data on free and reduced price lunch for Ohio showed that seven virtual schools had no students classified as low-income, which is represented by the percent of students that would qualify for free or reduced price lunch. The overall average for the 27 schools with available data was 0.4% of the students classified as qualifying for free or reduced price lunch. Of the 20 schools that did enroll free and reduced price lunch students, all were independently run and had an average of 2% of their students qualifying. The average percentage of student qualifying for free or reduced lunch for all US virtual schools was 32.2% and the average percentage on that metric for all public schools in Ohio was 45%, indicating that Ohio virtual schools were well below both the US public school average of 45% as well as the virtual school average. The blended learning schools reported 41% of their students as qualifying for free and reduced price lunch, which was more in line with the national public school average.

Both the virtual and blended schools in Ohio had substantially lower proportions of students classified as ELL relative to state and national averages for all public schools. Virtual schools reported 0.5% and blended schools reported 0.8% ELL compared with 2.7% for Ohio public schools and 9.6% for all public schools.

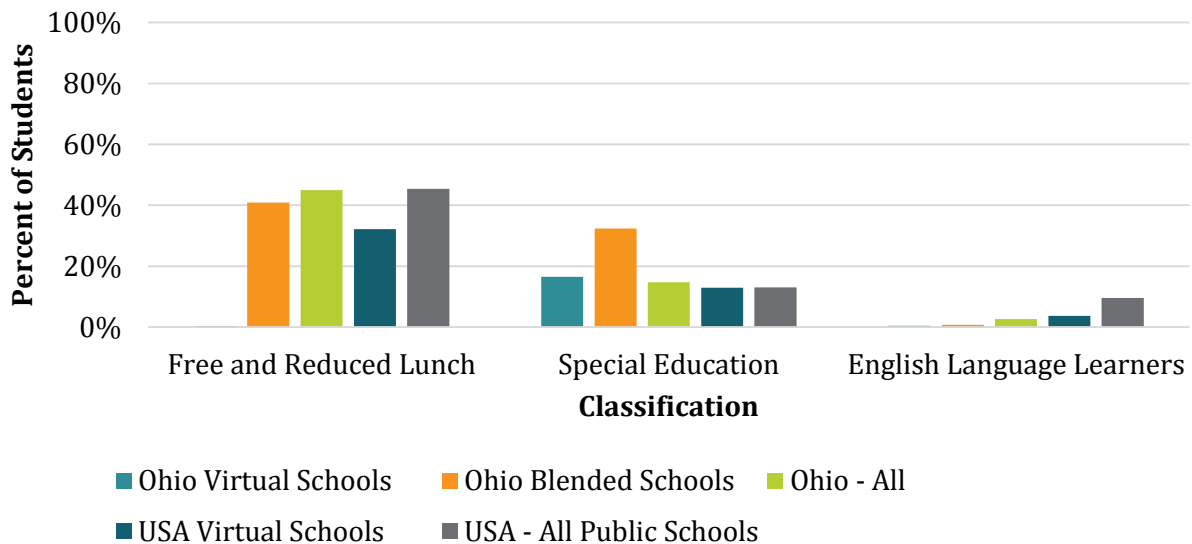


Figure 4. Proportion of Students Classified as Special Education or as ELL 2014-15

Another key demographic variable is student gender. Girls were more prevalent in the virtual schools (53.3%), although in the blended learning schools, girls comprised 51.2% of students and were closer to the proportion of boys.

Student-teacher ratios is an important indicator specific to virtual schooling. It might be assumed that some of the cost savings that virtual schools have with regard to such things as facilities, transportation, etc. could result in more resources being available to provide more teacher support for primary and secondary students. At the same time, however, virtual teachers in the majority of the schools that have an established learning platform and curriculum do not have to devote time on developing curriculum and therefore should have more time for providing feedback to students. As indicated in Table 3, the virtual schools actually had far more students per teacher (28.7 on average) compared with state³ and national norms⁴ for all public schools. Still, relative to virtual schools in the country (34 students per teacher), Ohio reported lower numbers of students per teacher. Unfortunately, there were no data on student-teacher ratios available for 2014-15 for the blended learning schools.

Table 3. Student-Teacher Ratios in Ohio Virtual Schools

	# of Virtual Schools with Data	Median	Mean	SD	Max	Min
All Virtual Schools	25	20	28.7	25.9	116.6	4.5
Independent Virtual	19	20	29.1	29.0	116.6	4.5
Nonprofit Virtual	1	25.5	25.5	0.0	25.5	25.5
For-Profit Virtual	5	20	28.1	15.6	50.7	15.0
<i>K12 Inc.</i>	1	50.7	50.7	0.0	50.7	50.7
<i>Connections Acad.</i>	1	37.8	37.8	0.0	37.8	37.8
<i>ECOT</i>	1	15.0	15.0	0.0	15.0	15.0
District Virtual	1	27.10	27.1	0.0	27.1	27.1
Charter Virtual	24	20	28.8	26.5	116.6	4.5
National Average		16.1				

Ohio did not have school performance ratings for its virtual or blended learning schools in 2015-16. Four-Year Graduation rates were available for 18 of the schools. The overall average graduation rate weighted by student enrollment was 44.5%, which is far below the state average of 80.7% and the national average of 83.2% (CCD, 2017). The one virtual school operated by a nonprofit EMO had a graduation rate of 52.5%, and this compared with 46.3% for the schools operated by the for-profit EMOs. Interestingly, the eight independent virtual schools with graduation data in Ohio had much lower graduation rates with an average of 22% of their students graduating on schedule.

Research

Unlike some states, there is a growing body of virtual school research focused on the State of Ohio. Interestingly, much of that research has specifically focused on student characteristics and student performance. For example, Ahn (2016) used data from the Ohio Department of Education from the 2009-10 school year to the 2012-13 school year to examine enrollment characteristics and to compare performance between students in Ohio's virtual schools and its brick-and-mortar schools.

³ Per the latest figures from the National Center for Education Statistics, the pupil/teacher ratio in Ohio for the Fall 2014 time period was 16.2:1. Retrieved from https://nces.ed.gov/programs/digest/d16/tables/dt16_208.40.asp?current=yes

⁴ Per the latest figures from the National Center for Education Statistics, the pupil/teacher ratio in the US for the Fall 2014 time period was 16.1:1. Retrieved from https://nces.ed.gov/programs/digest/d16/tables/dt16_208.40.asp?current=yes

Based on this data set, Ahn found that virtual school students were less likely to participate in the federal free and reduced price lunch program, less likely to be identified as limited English proficient, and more likely to be designated as special education. Ahn also reported that the proportion of minority students in virtual schools were similar to that of brick-and-mortar schools. Using a similar data set, Ahn and McEachin (2017) used a liner probability model to examine the characteristics of students attending virtual schools in Ohio compared to traditional brick-and-mortar schools. They found that there was a higher proportion of White students and a lower proportion of minority students enrolled in virtual schools. The authors also reported that there were consistent proportions of free and reduced lunch students but a lower proportion of limited English proficiency students in virtual schools.

Similarly, in their study of Ohio’s Department of Education enrollment data from the 2010-11 school year, Wang and Decker (2014a) found that the virtual schools also had a disproportionately lower proportion of limited English proficiency students and a higher proportion of special education students. However, they also found that virtual schools had higher proportions of economically disadvantaged students and a lower proportion of minority students.

The results of these studies have been summarized in Table 4, along with the data from the current study.

Table 4. Results Related to Student Characteristics

Study	White	Minority	Free and Reduced Lunch	Limited English Proficiency	Special Education
Wang & Decker (2014a)	Higher	Lower	Higher	Lower	Higher
Ahn (2016)	Consistent	Consistent	Lower	Lower	Higher
Ahn & McEachin (2017)	Higher	Lower	Consistent	Lower	Consistent
Current report	Consistent	Consistent	Lower	Lower	Consistent

It is important to note that most of these student characteristics have remained consistent (e.g., the equal or higher proportion of White students, the equal or lower proportion of minority students, and the lower proportion of limited English proficiency students). Interestingly, the more recent data has indicated that the proportion of special education students in virtual schools is becoming more consistent with their brick-and-mortar counterparts, whereas it has been a higher proportion in studies that used earlier data.

The current study also reported that Ohio virtual schools had a student-teacher ratio of approximately 29:1, while the national average for all public schools was approximately 16:1. Using data from the 2009-10 school year, Innovation Ohio (2011) reported that Ohio’s virtual schools had an average student-teacher ratio of 37:1, with the lowest being 28:1 and the highest being 51:1.

The area that has seen the most virtual school research in Ohio has been student performance (see Table 5).

Table 5. Research into Virtual School Student Performance in Ohio

Study	Result
Zimmer et al. (2009)	Virtual school students have significantly and substantially lower achievement gains while attending virtual schools than they experience in traditional public schools.
Ohio Alliance for Public Charter Schools (2009)	Virtual schools on average are achieving higher value-added academic results.
Innovation Ohio (2011)	Virtual school students are 10 times less likely to be enrolled in an 'effective' school.
Wang & Decker (2014b)	While virtual school enrollment has increased rapidly, traditional schools consistently outperform virtual schools.
Woodworth et al. (2015)	Virtual school students had a -0.11 effect size in reading and a -0.20 effect size in math, both of which were statistically significant at the 0.01 level.
Ahn (2016)	Virtual school students perform worse than students who attend brick-and-mortar schools.
Ahn & McEachin (2017)	Higher achieving virtual school students do not perform as well as they would have in a traditional public school.
Current report	Independent, non-profit, and for-profit EMO operating virtual schools had a lower graduation rate than the state average.

It is important to mention that the Ohio Alliance for Public Charter Schools is an organization that is devoted to promoting charter schools, including virtual charter schools. In contrast, Innovation Ohio is an organization that is opposed to virtual charter schools. Yet, it is interesting that the research has consistently found that students attending traditional brick-and-mortar schools outperform virtual school students, although the most recent data has noticed a distinction between the performance of independent virtual schools and for-profit EMO operated virtual schools.

To date, there has been little literature focused on virtual school policy in Ohio. However, several of the studies described above have included data on the cost of virtual schooling. For example, the Ohio Alliance for Public Charter Schools (2009) reported that Ohio's virtual schools were only spending 56% compared to their district peers. Similarly, the Ohio Legislative Committee on Education Oversight (2005) reported that actual cost of the five virtual schools that existed at the time was only \$5,382/student, compared to \$8,437/student for traditional brick-and-mortar schools. Surprisingly, one of the most prominent recent policy issues in the state has focused on virtual school funding. Over the past year, the state has conducted attendance audits to determine whether virtual schools received more funding than they were entitled based on their average daily membership, which is the regulatory mechanism the state uses to determine enrollment (Pazhouh, Lake, & Miller, 2015). Specifically, according to Ohio Statutory Code 3313.03(A)(11), "full-time equivalency" for a student "requires schools to provide learning opportunities to a minimum of 25 students for a minimum of 920 hours per year." To date, the audits have found that one virtual school had received funding for almost five times the number of students than it actually had (Siegel & Candisky, 2016), while another virtual school received funding for almost 45% more students than had actually enrolled and actively logged in (Siegel, 2016). Interestingly, when it comes to virtual schools funding and spending, Pazhouh et al. (2015) stated that "Ohio [actually] has extensive rules requiring online charter schools to spend 75 percent of funds on 13 approved

expenditure categories, including curriculum, instruction, supplies, and instruction-specific equipment” (p. 12).

Beyond the focus on the economics of virtual schools, there have been limited references to Ohio in other national studies of various regulatory elements. For example, Barbour, Clark, DeBruler, and Bruno (2016) reported that Ohio employed the following initial approval procedures: ‘Front End Course Provider Approval,’ ‘Front End Course Approval,’ and ‘Front End Full-Time Program/Charter School Approval’ – although there was ‘No State Mandated Approval or Evaluation.’ The authors also indicated that there was no mechanism for on-going evaluation. Finally, Pazhouh et al. (2015) reported that Ohio was one of 14 states that had caps on virtual school enrollments, but they also noted that in the case of Ohio, “those enrollment caps were put in place after significant [virtual] school growth” (p. 5).

Key Policy Issues

As blended learning options increase across states, states are also faced with developing accountability and governance structures to oversee the instructional method. In Ohio, a pending bill (OH S298) proposed oversight of blended learning models and would require the state department of education to “develop a metric for measuring student performance in schools that operate using the blended learning model.”⁵ In addition, the bill would limit a charter school (i.e., eCommunity school per Ohio statute) from using a blended learning model, unless that charter school is sponsored by an entity that received an “exemplary” rating for the most recent school year.

Several states have focused their efforts on increasing accountability and oversight of the quality of online instructional providers, the materials they use, and course quality. In efforts to further address instructional quality, enacted legislation in Ohio (OH H64) established a Competency-Based Education Pilot to award grant funding for districts to design and implement competency-based models, defined as emphasizing “achievement over enrollment and encourag[ing] school districts to adequately address the personalized learning needs of each of their students.”⁶ The pilot further states, “Instruction is tailored to students’ current levels of knowledge and skills, and students are not constrained to progress at the same rates as their peers. Competency-based education allows for accelerated learning among students who master academic material quickly and provides additional instructional support time for students who need it.”⁷ Ohio awarded five grants to implement competency-based programs. The Ohio Competency-Based Education Pilot advances online learning as a personalized competency-based option. Also, the pilot embraces a shift away from the Carnegie Unit of time, granting students credit based on demonstrated mastery, not on the amount of time focused on a subject.

⁵ Ohio (OH S298), 2016

⁶ See https://education.ohio.gov/getattachment/Topics/Other-Resources/Competency_Based-Education-Pilot/Application-for-ODE-Posting-CBE.pdf.aspx

⁷ See https://education.ohio.gov/getattachment/Topics/Other-Resources/Competency_Based-Education-Pilot/Application-for-ODE-Posting-CBE.pdf.aspx

Wisconsin

The most recent state profile from the *Keeping Pace with K-12 Digital Learning* report indicated that, “Wisconsin has a wide range of digital learning options for students across the state” (Watson, Pape, Murin, Gemin, & Vashaw, 2014, p. 171).

Enrollment, Student Characteristics, and Performance

Wisconsin’s first two virtual charter schools opened in 2007-08 and enrolled 1,297 students. The rate of growth for virtual schools was slow compared to other states. By 2015-16, virtual schools increased to 26 schools enrolling 6,424 students (see Figure 5). There were a total of seven blended learning schools in 2015-16 that enrolled 809 students.

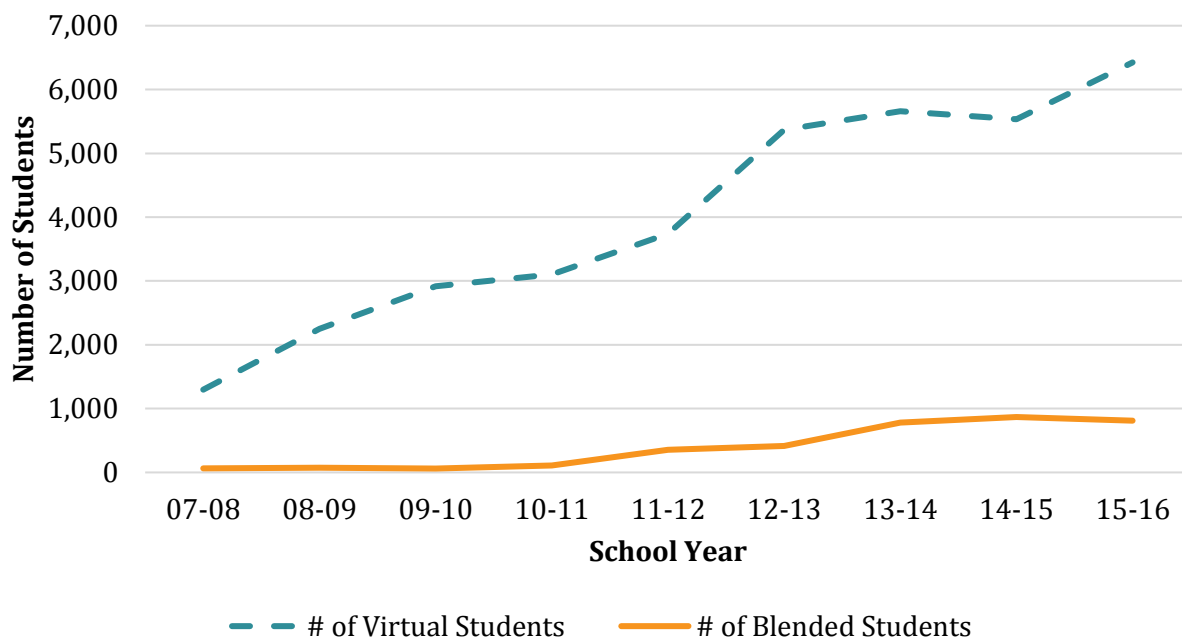


Figure 5. Enrollment in Wisconsin’s Virtual and Blended Learning Schools

Table 6 illustrates the number of full-time virtual schools and the students they served, broken out by district or charter schools. There was only one small district-run virtual school with 38 students. The 27 charter virtual schools were much larger in size and enrolled on average 248 students. Charter schools accounted for 99.4% of enrollments in Wisconsin’s virtual schools.

Table 6. Distribution of Wisconsin Virtual Schools and Students across District and Charter Sectors, 2015-16

	# of Virtual Schools	% of Virtual Schools	# of Virtual Schools with Enrollment Data	# of Virtual Students	% of Virtual Enrollments	Average Enrollment Per School
District	1	3.6%	1	38	0.6%	38.0
Charter	27	96.4%	26	6,438	99.4%	247.6
Total for All Virtual Schools	28	100.0%	27	6,476	100.0%	239.9

Table 7 depicts the breakout of virtual schools by operator. Most of the virtual schools were independent, meaning they had no private EMO that operated them. There were no nonprofit EMOs in Wisconsin that operate virtual schools. Six of the virtual schools were operated by for-profit EMOs, including the nation's two largest private operators of virtual schools: K12 Inc. and Connections Academy. It is worth noting that the independent virtual schools were relatively small in size (an average of 141 students per school) compared with virtual schools operated by the for-profit EMOs (an average of 587 student per school).

Table 7. Distribution of Wisconsin Virtual Schools and Students by Operator Status 15-16

	# of Virtual Schools	% of Virtual Schools	# of Virtual Schools with Enrollment Data	# of Virtual Students	% of Virtual Enrollments	Average Enrollment Per School
Independent	22	78.6%	21	2,954	45.6%	140.7
For-profit EMO	6	21.4%	6	3,522	54.4%	587.0
<i>K12 Inc.</i>	4	14.3%	4	2,363	36.5%	590.8
<i>Connections Academy</i>	1	3.6%	1	618	9.5%	618.0
Total for All Virtual Schools	28	100.0%	27	6,476	100.0%	240.0

Most students enrolled in virtual schools were concentrated at the high school level. Figure 6 depicts the number of students per grade level across all virtual schools. This figure also illustrates the number of schools that served students at each of the grade levels. While around 13 virtual schools served students in the primary level grades, more than 20 schools served students at the upper secondary grade levels.

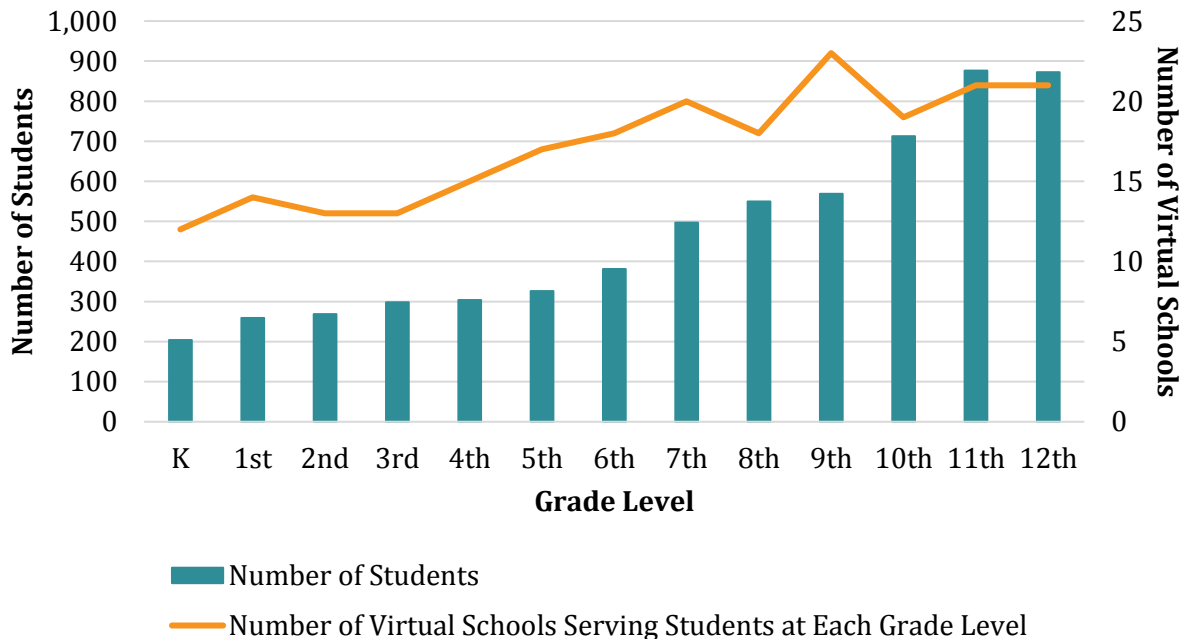


Figure 6. Number of Wisconsin Virtual School Students per Grade Level and Number of Schools that Offered Instruction at Each of the Grade Levels, 2014-15

All of the blended learning schools were governed as charter schools, and only one of these blended schools was operated by a nonprofit EMO: Rocketship Education. On average, the blended learning schools had 115 students per school, which was noticeably smaller than the virtual schools.

White students made up 80% of the students in Wisconsin's virtual schools and 43% in the blended learning schools (see Figure 7). Relative to state and national averages, minority students were underrepresented in Wisconsin's virtual schools while the blended learning schools had a relatively high proportion of Hispanic students compared with both state and national averages.

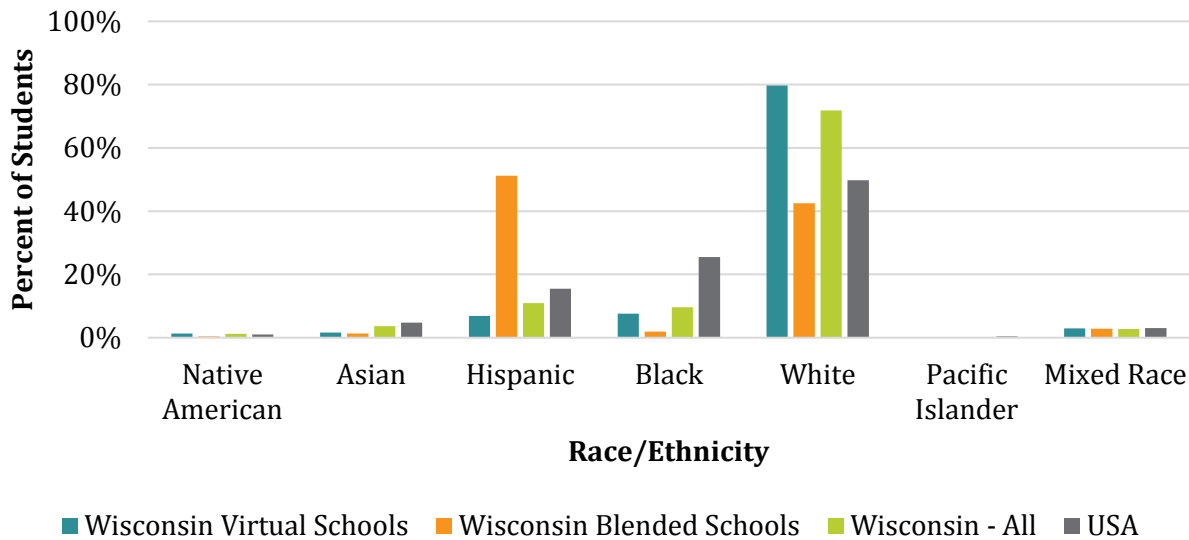


Figure 7. Race/Ethnicity for Students Enrolled in Wisconsin Virtual and Blended Learning Schools

While the proportion of students with disabilities in Wisconsin's virtual schools (1.1%) are far below norms in traditional public schools (13.8% for Wisconsin and 13.1% for the US), enrollment of students with disabilities in blended schools (21.2%) was substantially above norms (see Figure 8).

The virtual schools in Wisconsin had much lower concentrations of low-income students (24%) relative to the state average of 41.4%. The blended learning schools have much higher concentrations of low-income students. Both the virtual and blended schools in Wisconsin have relatively similar proportions of students classified as ELL relative to national norms, but higher than the state average (see Figure 8).

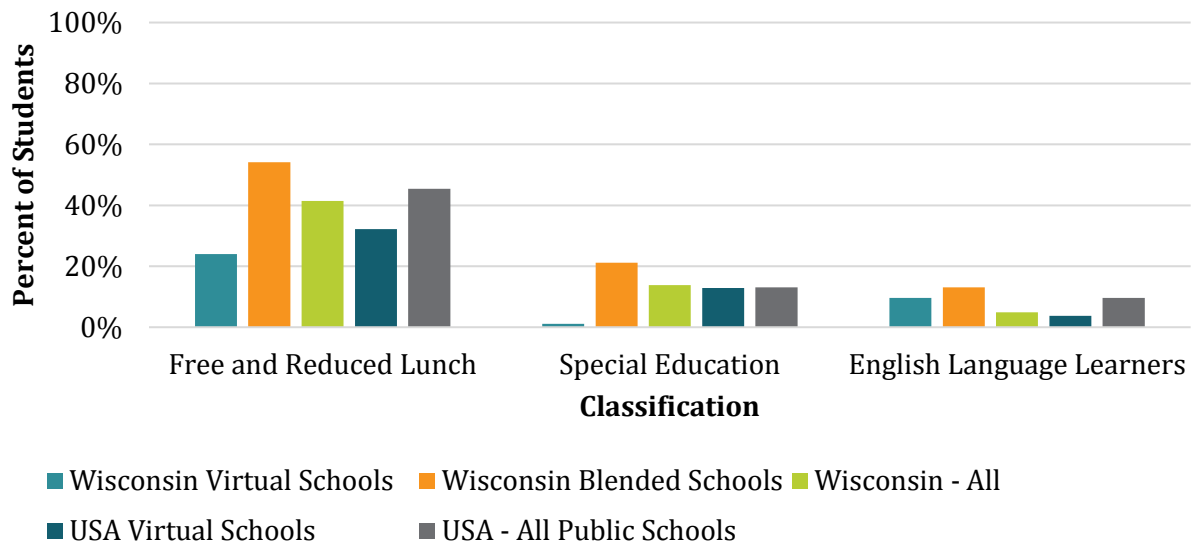


Figure 8. Proportion of Students Classified as Special Education or as ELL 2014-15

Another key demographic variable is student gender. Girls were more prevalent in the virtual schools (55.5%), although girls were underrepresented in the blended learning schools (47.9%).

As indicated in Table 8, the virtual schools actually had far more students per teacher (31.9 on average) compared with state norms (14.9 students per teacher) and national norms (16.1 students per teacher). The virtual school operated by Connections Academy reported having 42 students per teacher. It was surprising to note that the blended learning schools had far more students per teacher compared with the virtual schools (53 students per teacher in blended schools compared with 32 in virtual schools).

Table 8. Student-Teacher Ratios in Wisconsin Virtual Schools

	# of Virtual Schools with Data	Median	Mean	SD	Max	Min
All Virtual Schools	16	23.4	31.86	29.31	132	9
Independent Virtual	12	21.1	31.50	33.62	132	9
For-Profit Virtual	4	37.6	32.95	12.24	42	15
<i>K12 Inc.</i>	2	27.3	27.30	17.39	40	15
<i>Connections Acad.</i>	1	41.7	41.69	0.00	42	42
District Virtual	1	15.0	15.00	0.00	15	15
Charter Virtual	15	24.6	32.99	29.98	132	9
All Blended Schools	5	58.3	52.72	32.98	101	18
National Average		16.1				

All but three of the Wisconsin virtual schools and all of the blended learning schools received school performance ratings. Only 10 of the virtual schools (40%) received performance ratings that were deemed acceptable according to state guidelines (see Table 9). Two-thirds of the virtual schools received unacceptable ratings. The independent virtual schools performed slightly better than the EMO-operated virtual schools. The one district operated virtual school received an acceptable

rating from the state. Among the seven blended learning schools, four schools received acceptable ratings and three received unacceptable ratings. Generally speaking, the state school performance ratings are a crude measure of school performance since this takes into account a small number of indicators and it groups schools into relatively few categories. Readers are encouraged to look more closely at details related to performance shared by state entities.

Table 9. Proportion of Wisconsin Virtual and Blended Schools with Acceptable State Performance Ratings

	Acceptable		Unacceptable		# of Virtual Schools with No Ratings
	N	% of Virtual Schools with Ratings	N	% of Virtual Schools with Ratings	
Full-time Virtual	10	40.0%	15	60.0%	1
For-profit	2	33.3%	4	66.6%	0
<i>K12 Inc.</i>	1	25.0%	3	75.0%	0
<i>Connections Acad.</i>	1	100.0%	0	0.0%	0
Other EMO	0	0.0%	1	100.0%	0
Independent	8	42.1%	11	57.9%	1
District Virtual	1	100.0%	0	0.0%	0
Charter Virtual	9	37.5%	15	62.5%	1
Full-time Blended	4	57.1%	3	42.9%	0

Another relevant measure of school performance is the on-time graduation rate. Only eight of the virtual schools and one of the blended learning schools had data on graduation rates. The graduation rate for the virtual schools was weighted by the number of students in each school. Overall, the graduation rate for Wisconsin virtual schools was 60.8%, which was below the state average of 88.4% and the national average of 83.2% (CCD, 2017). The independent virtual schools performed better with a weighted average graduation rate of 77%, compared with 55.5% graduation rate in the for-profit operated virtual schools. The one blended learning school with graduation data reported a 95% graduation rate.

Research

Similar to Ohio, Wisconsin was also included in the Center for Research on Education Outcomes study of student performance in virtual charter schools in 17 states. Contrary to the data presented above, Woodworth et al. (2015) reported that Wisconsin virtual charter school students had the strongest student performance of any state in reading (a 0.06 effect size) and second strongest performance in math (a -0.021 effect size) as compared to students in the traditional brick-and-mortar environment, with the reading result being statistically significant. These results were actually somewhat consistent with the findings of the Joint Legislative Audit Committee (2010), which explored various aspects of the operations and funding of virtual charter schools, as well as student performance. The audit found that for the 2005-06, 2006-07, and 2007-08 school years, “virtual charter school pupils in all grades had higher median scores on the reading exam than statewide medians” (p. 54), but “virtual charter school pupils’ scores on the mathematics exam were generally lower than statewide medians” (p. 56). It should be noted that this audit began approximately one year after a court of appeals ruling found that a virtual charter school operated

by K12, Inc. was not eligible for state aid (i.e., per pupil funding) because it was in violation of state law in three areas (Johnson v. Burmaster, 2008). This audit was actually a component of the legislative solution that allowed the virtual charter schools to continue to operate following the 2007-08 school year (2007 Wisconsin Act 222).

It was actually this particular court case, as well as the legislative efforts to render the judgment void, that have provided much of the historical literature related to virtual charter schools in Wisconsin. For example, Johnson v. Burmaster (2008) revealed the for-profit EMO that operated the Wisconsin Virtual Academy (i.e., K12, Inc.) employed an instructional model that relied on the parent to be the primarily instructional provider for the student. In essence, “parents serve as the school’s teachers” (§ 17). Prior to these legal and legislative actions, the only research into virtual schools in Wisconsin was conducted by Bracey (2004), who examined the online course curriculum provided by K12, Inc.. Interestingly, Bracey concluded that, “the curriculum is not interesting and it promotes a one-size-fits-all approach” (p. 22). At the time of the legal and legislative actions, the virtual charter schooling provided in Wisconsin was limited to access to an online curriculum of questionable quality and an expectation that parents teach that online curriculum to their own children.

With these exceptions, there has been little research into virtual charter schools in Wisconsin. Over the past 2 years, the Regional Educational Laboratory Midwest has investigated various aspects of the Wisconsin Virtual School (WVS) – a statewide, supplemental online program. These investigations have revealed that most students only spend 1.5 to 2.5 hours engaged in their online course each week, and generally, being engaged for at least 1.5 hours per week is enough to earn a passing grade (n.b., a typical face-to-face class is scheduled for 4 to 6 hours per week) (Pazzaglia, Clements, Lavigne, & Stafford, 2016). Clements, Stafford, Pazzaglia, and Jacobs (2015) reported that most public high schools in Wisconsin, as well as Iowa, used online learning for credit recovery courses and to complete core academic courses. However, the public school’s biggest concerns focused on the lack of online teacher training, as well as the quality of the online courses. Interestingly, Zweig, Stafford, Clements and Pazzaglia (2015) found that WVS’s online teachers reported to have received training in how to teach online, but desired additional professional development related to student engagement and student perseverance. It should be noted that all of these studies focused on supplemental forms of virtual schooling.

Key Policy Issues

Legislative activity in Wisconsin for 2015 and 2016 was limited to a single bill. The Legislature enacted a state omnibus budget bill – Wisconsin Act 55 – in 2015 that includes provisions prohibiting the Department of Education from including virtual charter school students’ data in a district’s report card calculations when 50% of a virtual school’s students are enrolled through the open enrollment program. All virtual schools still receive individual school report cards.

Idaho

The most recent state profile from the *Keeping Pace with K-12 Digital Learning* report indicated that, “Idaho has one of the largest state virtual schools (the Idaho Digital Learning Academy), a number of fully online schools, district programs, and a state distance education academy” (Watson, Pape, Murin, Gemin, & Vashaw, 2014, p. 96).

Enrollment, Student Characteristics, and Performance

The first two virtual schools in Idaho opened in 2009-10 and enrolled 2,847 students. In 2010-11, more virtual schools opened and the number of students in Idaho virtual schools soared to close to 6,000. Since then, the total number of students in virtual schools has changed very little from year to year. There were 6,078 students enrolled in 13 virtual schools in 2015-16 (see Figure 9). There were no full-time blended learning schools in Idaho.

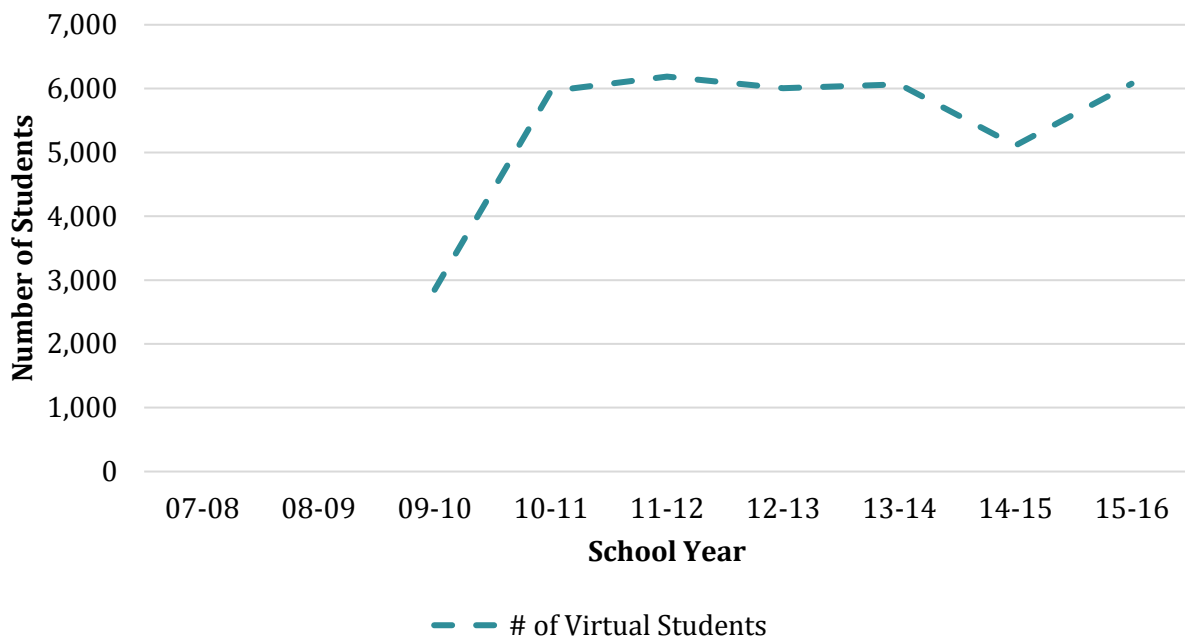


Figure 9. Enrollment in Idaho Virtual Schools

Table 10 illustrates the number of full-time virtual schools and the students they served, broken out by district or charter schools. There were only two small district-run virtual schools with a total of 224 students. The 11 charter virtual schools were much larger in size with an enrollment average of 532 students. Charter schools accounted for 96.3% of enrollments in Idaho’s virtual schools.

Table 10. Distribution of Idaho Virtual Schools and Students across District and Charter Sectors, 2015-16

	# of Virtual Schools	% of Virtual Schools	# of Virtual Schools with Enrollment Data	# of Virtual Students	% of Virtual Enrollments	Average Enrollment Per School
District	2	15.4%	2	224	3.7%	112.0
Charter	11	84.6%	11	5,854	96.3%	532.2
Total for All Virtual Schools	13	100.0%	13	6,078	100.0%	467.5

Table 11 illustrates the number of full-time virtual schools and the students they served, broken out by operator status. Fortunately, up-to-date enrollment data were available for all 13 virtual schools. Nine of the virtual schools were independent; that is, they were not operated by a private EMO. The other four were operated by for-profit EMOs (i.e., K12 Inc. had two schools, Connections Academy had one school, and Insight Schools operated one). There were no nonprofit EMOs operating virtual schools.

While the independent virtual schools had 235 students on average in their schools, the two schools operated by K12 Inc. were considerably larger with an average of 1,278 students per school, and Connections Academy enrolled 957 students. The EMO-operated schools comprised 30.8% of the virtual schools; however, because they were much larger, they accounted for 65.2% of total enrollments in Idaho virtual schools.

Table 11. Distribution of Idaho Virtual Schools and Students by Operator Status 2015-16

	# of Virtual Schools	% of Virtual Schools	# of Virtual Schools with Enrollment Data	# of Virtual Students	% of Virtual Enrollments	Average Enrollment Per School
Independent	9	69.2%	9	2,116	34.8%	235.1
Nonprofit EMO	0	—	0	0	0.0%	—
For-profit EMO	4	30.8%	4	3,962	65.2%	990.5
<i>K12 Inc.</i>	2	15.4%	2	2,556	42.1%	1,278.0
<i>Connections Academy</i>	1	7.7%	1	957	15.7%	957.0
Total for All Virtual Schools	13	100.0%	13	6,078	100.0%	467.5

Most students enrolled in virtual schools were concentrated at the high school level. Figure 10 depicts the number of virtual school students per school. This figure also illustrated the number of schools that served students at each of the grade levels. Five virtual schools served students at the lowest grade levels while 12 of the schools served students in the upper secondary grades.

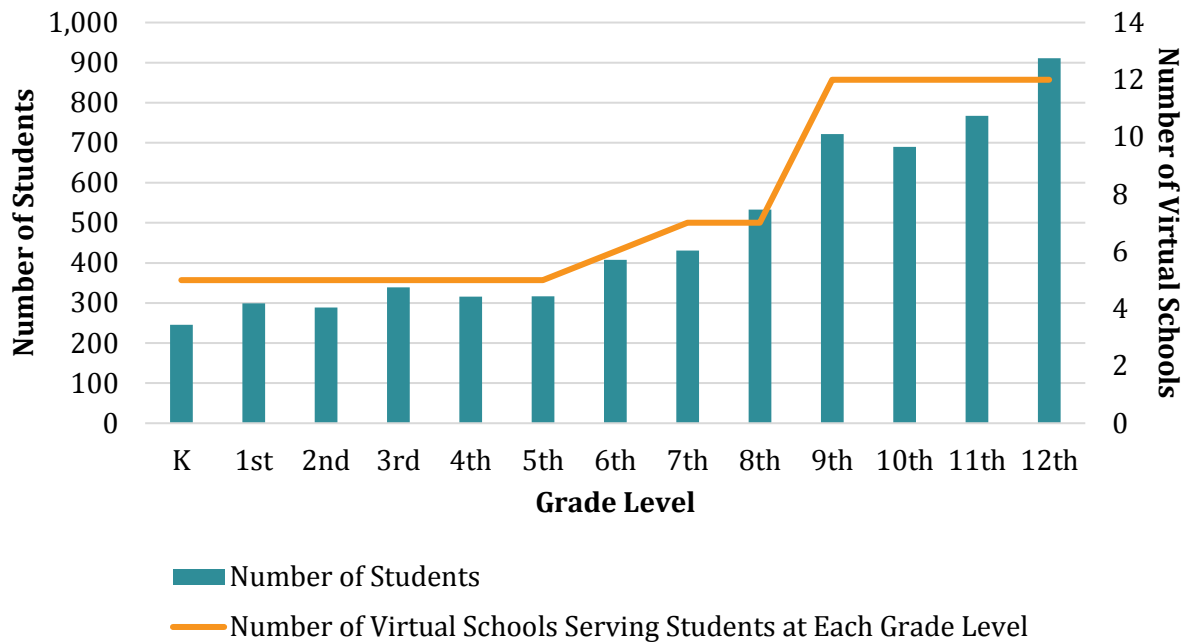


Figure 10. Number of Idaho Virtual School Students per Grade Level and Number of Schools that Offered Instruction at Each of the Grade Levels, 2014-15

White students made up around 88% of the students in Idaho’s virtual schools (see Figure 11). Relative to state and national averages, minority students are underrepresented in the state’s virtual schools.

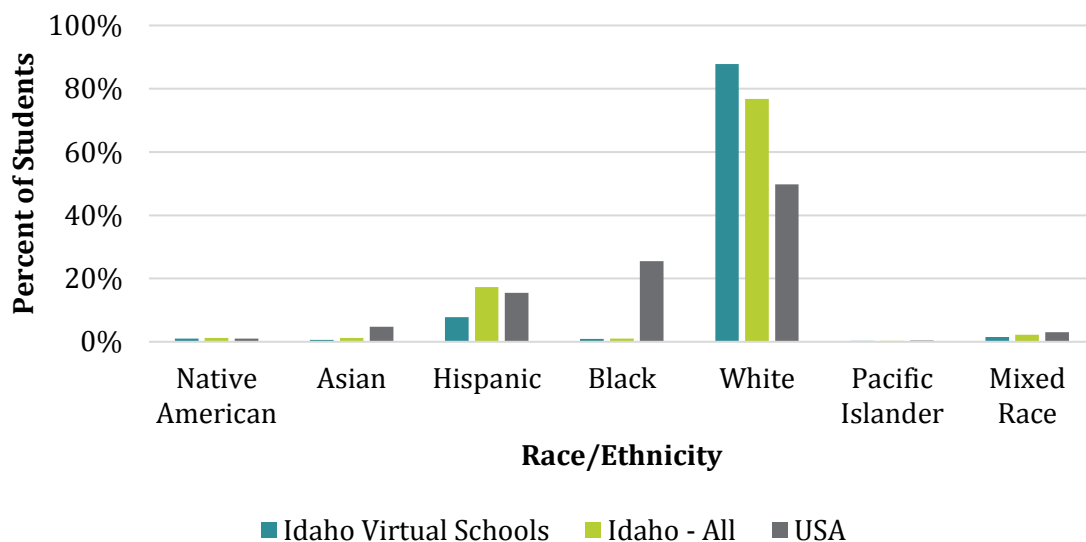


Figure 11. Race/Ethnicity for Students Enrolled in Idaho’s Virtual Schools

The proportion of students with disabilities in Idaho’s virtual schools (10.3%) is slightly higher than state norms for all public schools (9.8%) although Idaho virtual schools still have fewer

students with disabilities relative to norms for all virtual schools and all traditional public schools in the nation (see Figure 12).

The virtual schools in Idaho did have a higher concentration of low-income students (52.7%) relative to state norms (48.5%) and national averages for all virtual schools (32.2%) and all public schools (45.4%). The virtual schools in Idaho, however, had substantially lower proportions of students classified as ELL (0.5% for Idaho virtual schools compared with 4.4% for the state).

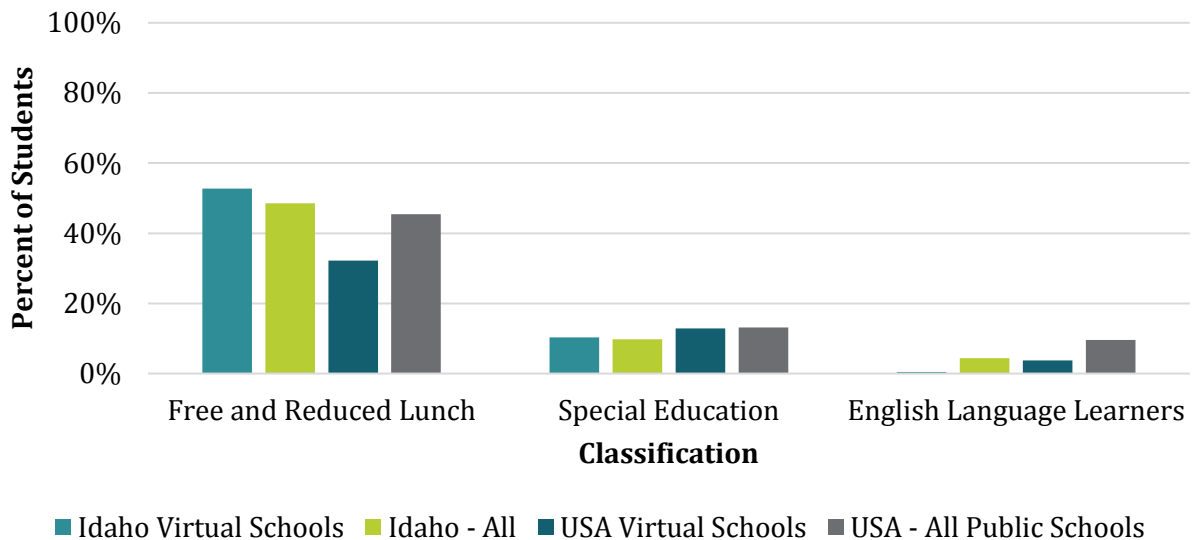


Figure 12. Proportion of Students Classified as Special Education or as ELL, 2014-15

Another key demographic variable is student gender. Girls were more prevalent in the virtual schools (54.3%) relative to boys (45.7%).

Student-teacher ratio is an important indicator specific to virtual schooling. It might be assumed that some of virtual schools' cost savings with regard to expenses such as facilities, transportation, etc. could result in more resources being available to provide more teacher support for primary and secondary students. As indicated in Table 12, the virtual schools actually have far more students per teacher (33 on average) compared with state (19 students per teacher) and national norms for all public schools (16 students per teacher). The virtual schools operated by for-profit EMOs had noticeably higher student-to-teacher ratios than the independent virtual schools (45 students per teacher versus 28 for independent virtual schools).

Table 12. Student-Teacher Ratios in Idaho’s Virtual Schools

	# of Virtual Schools with Data	Median	Mean	SD	Max	Min
All Virtual Schools	10	35.5	33.03	12.84	53.1	15.6
Independent Virtual	7	28.2	27.71	10.83	41.4	15.6
For-Profit Virtual	3	45.6	45.43	7.75	53.1	37.6
<i>K12 Inc.</i>	1	53.1	53.10	0.00	53.1	53.1
<i>Connections Acad.</i>	1	45.6	45.60	0.00	45.6	45.6
District Virtual	1	33.4	33.40	0.00	33.4	33.4
Charter Virtual	9	37.6	32.99	13.62	53.1	15.6
National Average			16.1			

Idaho did not have school performance ratings for its virtual schools in 2015-16. Four-Year Graduation rates were available for nine of the virtual schools. On average the graduation rate weighted by student enrollment was 37.7%. This can be compared with state average of 78.8% and the national average of 83.2% (CCD, 2017). The six independent virtual schools with data did better with a 48.5% graduation rate, while the for-profit EMO operated virtual schools performed substantially lower with only 32.8% of the students graduating on schedule.

Research

Of the five states included in these case studies, Idaho has the least empirical research available. For example, we reported above that Idaho’s virtual schools had only a slightly lower proportion of students with disabilities than all virtual schools and all traditional public schools. Gill et al. (2015) indicated that based on 10 states with available data, including Idaho, “students with disabilities were represented in online charter schools at approximately the same rate as in public schools overall” (p. 7). In keeping with the theme of there being a general lack of research for the state, the companion report from the Center for Research on Education Outcomes that studied student performance in virtual charter schools did not include Idaho (Woodworth et al., 2015).

In fact, a technical assistance report produced by the Regional Educational Laboratory Northwest is the only study of virtual charter schooling that has been conducted in the state (Burke & Wang, 2010).⁸ The authors found that, “from 2004 through 2009 the percentage of students achieving proficiency on the Idaho Standards Achievement Tests [in reading, math, and language arts] was lower in virtual charter schools compared to other charter schools and to public non-charter schools” (p. 5). In terms of student enrollment, Burke and Wang found that virtual charter schools enrolled a higher proportion of White students, a lower proportion of special education students and students who had limited proficiency in English, and similar proportions of students receiving free and reduced lunch.

The only other research focused on virtual charter schools in Idaho examined the role of state education agencies in regulating virtual learning (Natale & Cook, 2012). The article was focused on three case studies: Alabama, Florida, and Idaho. In each case study, the authors provided a detailed

⁸ While research specific to virtual charter schooling has been rare in Idaho, there has been recent research work into supplemental K-12 online learning in the state (Kennedy, 2015; Werth, Werth, Curtis, Kellerer, Kellerer, Reberry, & Walker, 2016).

history of K-12 online learning – both supplemental and full-time, how the state education agency was overseeing virtual learning, and challenges for the future of virtual learning regulation in that state.

Key Policy Issues

The Idaho Legislature debated a variety of bills related to virtual schools focused on issues ranging from funding for technology infrastructure that supports online learning to funding for the Idaho Digital Learning Academy and the expansion and development of an at-home School Readiness Pilot Program that would include a virtual early childhood instruction program. A total of five bills were proposed in 2015 and two bills in 2016 (see Appendix A). Five bills were enacted and two failed.

Technology infrastructure was supported through an expansion of funding for broadband Internet over the past 2 years (ID H168 & ID S1333) and financial support for technology costs when schools lose their E-rate eligibility (ID H263). All three bills were enacted. Additional funding bills focused on the expansion of support services provided by the Idaho Digital Learning Academy, including remedial coursework for failing students, dual-credit coursework in partnership with higher education institutions (ID S1186; enacted), and support for the development of digital content for credit recovery and alternative pathways to graduation (ID S1333; enacted).

The Legislature also proposed a unique bill (ID H270), uncommon across other states that would have developed the at-home School Readiness Pilot Program that included an at-home technology program aimed at advancing early childhood literacy and numeracy instruction for pre-K students. The bill failed.

Washington

The most recent state profile from the *Keeping Pace with K-12 Digital Learning* report indicated that, “Washington has many digital learning options available for students in grades K–12” (Watson, Pape, Murin, Gemin, & Vashaw, 2014, p. 164).

Enrollment, Student Characteristics, and Performance

Washington started with 13 full-time virtual charter schools that began operating in 2009-10; these schools enrolled 5,382 students in 2009-10, and this has grown to 11,605 students in 28 schools during the 2015-16 school year (see Figure 13). Note that two additional schools did not have enrollment data available for 2015-16. There was only one full-time virtual school that opened in 2015-16; this school enrolled 81 students.

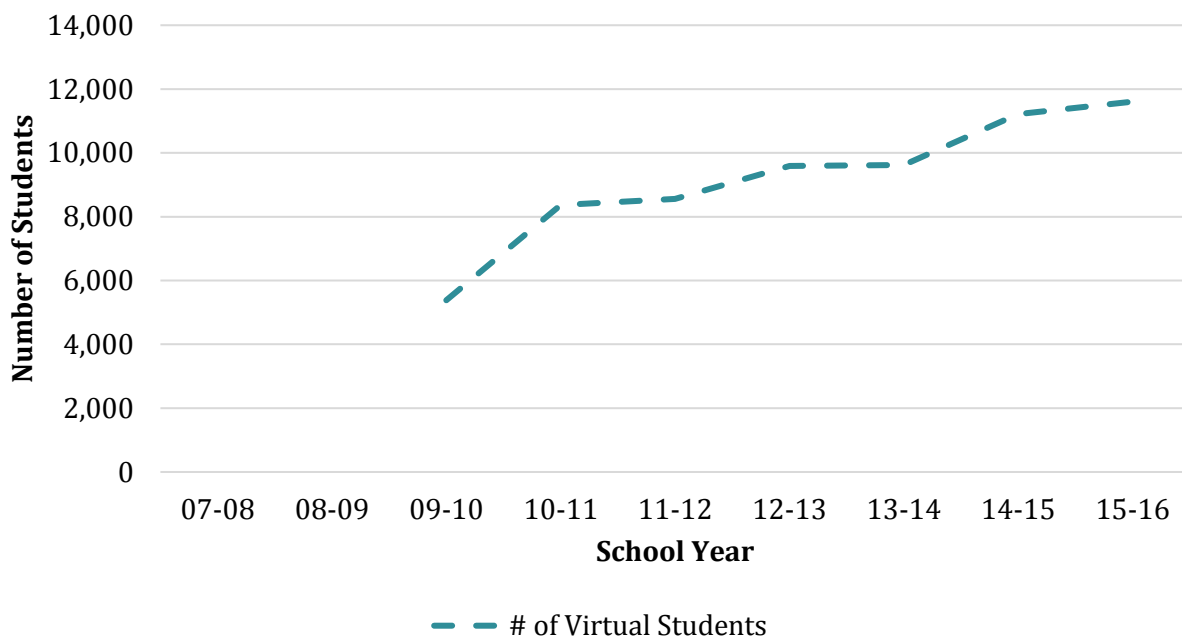


Figure 13. Enrollment in Washington Virtual Learning Schools

Table 13 illustrates the number of full-time virtual schools and the students they served, broken out by operator status. Although a total of 30 schools were operating, we were only able to obtain 2015-16 enrollment data for 27 of the schools. Note that there were no charter schools in Washington state, although a charter school law was passed in 2016; therefore, all virtual and blended learning schools were governed by local school districts. Districts did operate 22 of the schools; these were indicated as Independent virtual schools in Table 14. The districts contracted with for-profit EMOs to operate eight of these schools. K12 Inc. operated seven of the virtual schools while Connections Academy had no schools in this state. There were no nonprofit EMOs operating virtual schools.

While the independent (district operated) schools had 200 students on average, the schools operated by K12 Inc. were considerably larger with an average of 1,097 students per school. With 6,585 students, K12 Inc. accounted for 62% of all virtual students.

Table 14. Distribution of Washington Virtual Schools and Students by Operator Status 2015-16

	# of Virtual Schools	% of Virtual Schools	# of Virtual Schools with Enrollment Data	# of Virtual Students	% of Virtual Enrollments	Average Enrollment Per School
Independent Nonprofit EMO	22	73.3%	20	3,993	37.6%	200
For-profit EMO	8	26.7%	7	6,623	62.4%	946
<i>K12 Inc.</i>	7	23.3%	6	6,585	62.0%	1,097
<i>Connections Academy</i>		0.0%			0.0%	
Total for All Virtual Schools	30	100%	27	10,616	100%	580
Total for Blended Learning Schools	1	100%	1	81	100%	81

Most students enrolled in virtual schools were concentrated at the high school level. Figure 14 depicts the number of virtual school students per school. This figure also illustrates the number of schools that served students at each of the grade levels. Twelve virtual schools served students at the lowest grade levels while 20 of the schools served students in the last few grades of high school.

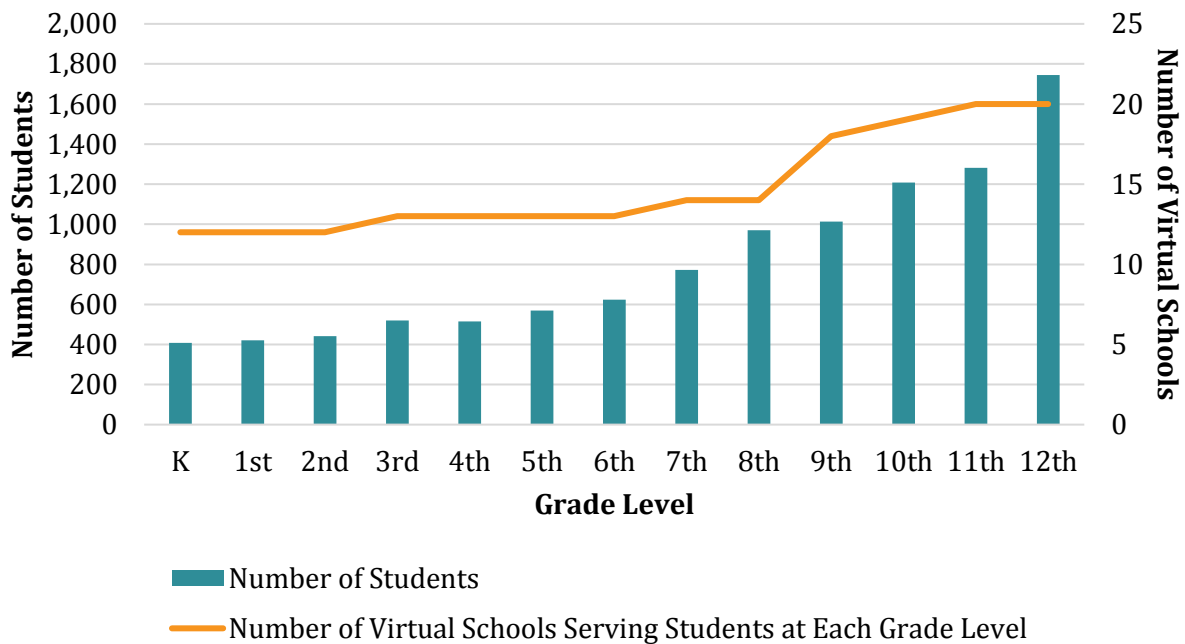


Figure 14. Number of Washington Virtual School Students per Grade Level and Number of Schools that Offered Instruction at Each of the Grade Levels, 2014-15

White students made up around 78% of the students in Washington’s virtual and blended learning schools (see Figure 15). Relative to state and national averages, minority students were underrepresented in both virtual and blended learning schools.

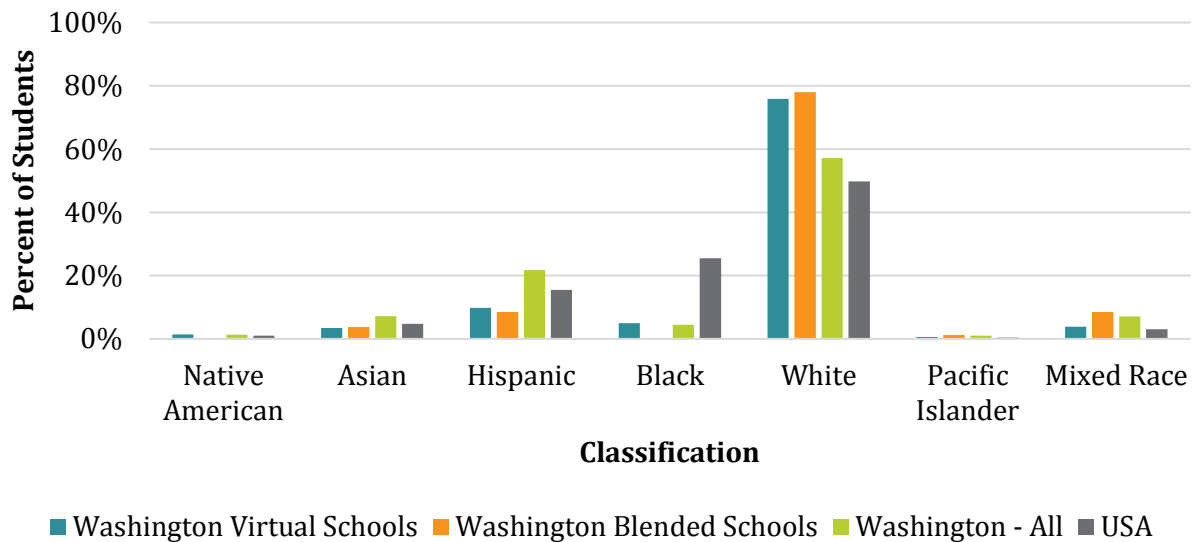


Figure 15. Race/Ethnicity for Students Enrolled in Washington Virtual and Blended Learning Schools

The proportion of students with disabilities in virtual and blended learning schools was relatively similar to the norms for all virtual schools and all traditional public schools in Washington and in the nation. Although the proportion of students with disabilities was similar, we cannot tell from this information whether the proportion of students with moderate or severe disabilities in virtual schools varies from that of students in traditional public schools.

The virtual schools in Washington have a noticeably lower concentration of low-income students (19.4%) relative to averages for all virtual schools in the country (32.2%), all Washington public schools (45.9%) and public schools in the nation (i.e, 45.4%). The virtual schools in Washington have substantially lower proportions of students classified as ELL (see Figure 16), relative to the state average (10%). Although the sole blended school that operated had more ELL students (11.4%) than state (10%) and the national average (9.6%).

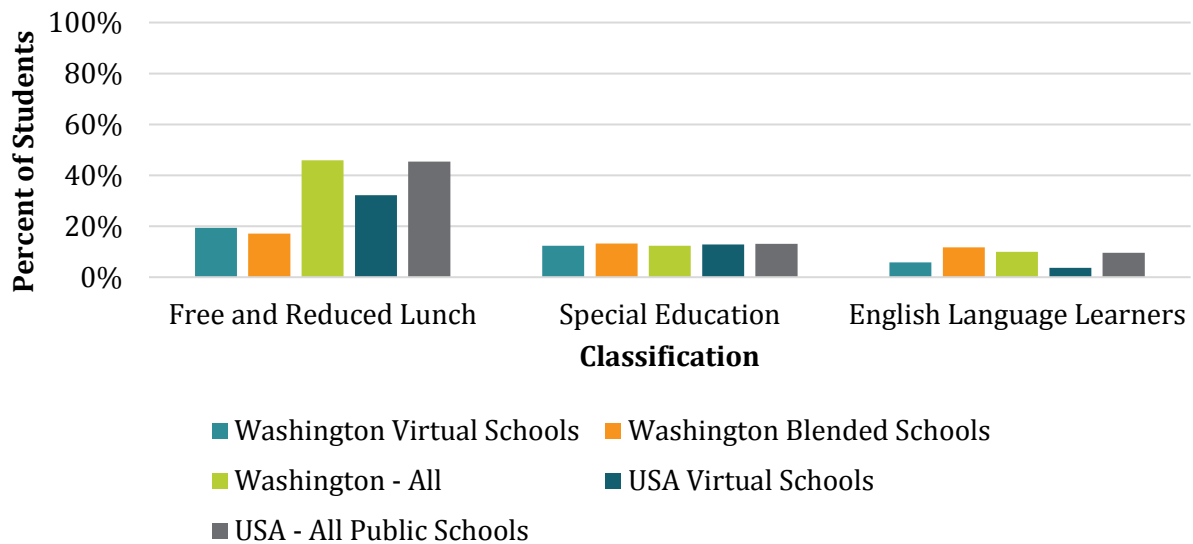


Figure 16. Proportion of Students Classified as Special Education or as ELL 2014-15

Another key demographic variable is student gender. Girls were more prevalent in the virtual schools (53.6%), although in the blended learning school the figures were reversed with girls being underrepresented (46.4%).

As indicated in Table 15, the virtual schools actually had far more students per teacher (38 on average) compared with the state average (18 students per teacher) or the national norms for all public schools (16 students per teacher). There were considerable differences in student-teacher ratios across the schools.

Table 15. Student-Teacher Ratios in Washington Virtual Schools

	# of Virtual Schools with Data	Median	Mean	SD	Max	Min
All Virtual Schools	23	35.00	38.11	18.51	105	8
Independent Virtual	15	37.00	40.51	21.63	105	8
For-Profit Virtual	8	28.75	33.61	10.30	51	25
K12 Inc.	7	29.30	34.39	10.87	51	25
District Virtual	23	35.00	38.11	18.51	105	8
National Average			16.1			

There were no school performance ratings assigned to schools in Washington in 2015-16. Further, we found that four-year graduation rates were not available for virtual schools in Washington.

Research

In comparison to the other states selected for case studies in their report, there is little empirical research focused on virtual schools in Washington. In fact, the majority of the Washington-focused literature related to virtual schooling in general were annual reports from the Digital Learning

Division (formerly known as the Digital Learning Commons).⁹ The Digital Learning Commons was a repository of courses from private providers that was created in 2002. It allows schools to expand their curricular offerings through virtual school courses. Depending on the individual school's or district's policy, in some cases the school would pay all or a portion of the course fee; but in other cases, the student was responsible for the course fee. Regardless, the Digital Learning Commons was not a virtual school (as defined by this report), but a virtual program. Either way, in 2009 the Digital Learning Commons was reframed into the Digital Learning Department, and its role shifted to focus more on "managing a state-wide approval process for online learning providers in Washington."¹⁰ This approval process was described in detail by Barbour, Clark, DeBruler, and Bruno (2014).

In fact, one of the few pieces of literature focused specifically on virtual schools in Washington was a report published by the Washington Policy Center (Finne, 2008). At the time, Finne described Washington as having approximately 20 district-based virtual schools – many of which were operated by for-profit EMOs. Finne suggested that one virtual school had outperformed the statewide average in all subject areas except math, while a second virtual school had scored within one to four percentage points of the statewide average. There were no data or references to how any of the other approximately 18 virtual schools performed, although Finne did conclude that, "the numbers show that when given the same time to prepare, online students perform no worse, and in many cases better, on the [statewide standardized] test than their peers in traditional public schools" (p. 17). It is worth noting that the Washington Policy Center describes itself as "an independent, non-profit, think tank that promotes sound public policy based on free-market solutions."¹¹ Free-market solutions in an educational context often connotes a promotion of school choice and virtual charter schools, which the report described in a favorable manner.

Key Policy Issues

Legislative activity in Washington for 2015 and 2016 was limited to one bill. The Legislature enacted a bill that addresses digital citizenship and media literacy in public schools (WA S6273). Specifically, the bill addressed concerns about the safe use of technology in schools and aimed to engage parents, school teachers, administrators, and community representatives in the development of best practices on the integration of technology in schools. The bill also called for the Office of the Superintendent of Public Instruction to convene an advisory committee and develop best practices and recommendations for instruction in digital citizenship, Internet safety, and media literacy, in addition to developing strategies to implement the recommendations statewide. Similar bills that address digital citizenship and media literacy were proposed in three other states in 2015 and 2016 (West Virginia, New York, and Utah); one was enacted, one failed, and one was pending.

Bills that address a related issue, specific to the safe use of digital information and protection of students' online data, were trending across many states. In 2015, a total of 14 bills were introduced

⁹ See <http://digitallearning.k12.wa.us/about/reports/> for these reports.

¹⁰ See <http://digitallearning.k12.wa.us/about/>

¹¹ See <http://www.washingtonpolicy.org/about/>

in 12 states related to students' online or digital privacy (Arkansas, Arizona, Colorado, Connecticut, Delaware, Georgia, New Jersey, Nevada, Oregon, Texas, Utah, and Virginia). Of the 14 bills, five were enacted. Student privacy protections have been an important factor in the growth and development of online learning. Depending on how legislation is written and implemented, it may either inhibit the growth of the sector by limiting vendors' ability to make use of data or promote the growth of the sector by effectively allaying parents' anxiety.

Michigan

The most recent state profile from the *Keeping Pace with K-12 Digital Learning* report indicated that, “Michigan has extensive digital learning activity, including fully online schools, a large state virtual school, single-district programs, and blended learning activity” (Watson, Pape, Murin, Gemin, & Vashaw, 2014, p. 115).

Enrollment, Student Characteristics, and Performance

Michigan started with two virtual charter schools that began operation in 2009-10 as part of a pilot program. In 2012, before the conclusion of the pilot, the cap on virtual schools was lifted, and the number of virtual charter schools and the number of students they served grew rapidly (see Figure 17). Districts have also been active in starting virtual schools. In 2015-16, a total of 62 virtual schools were operated in Michigan; they enrolled just under 14,000 students.

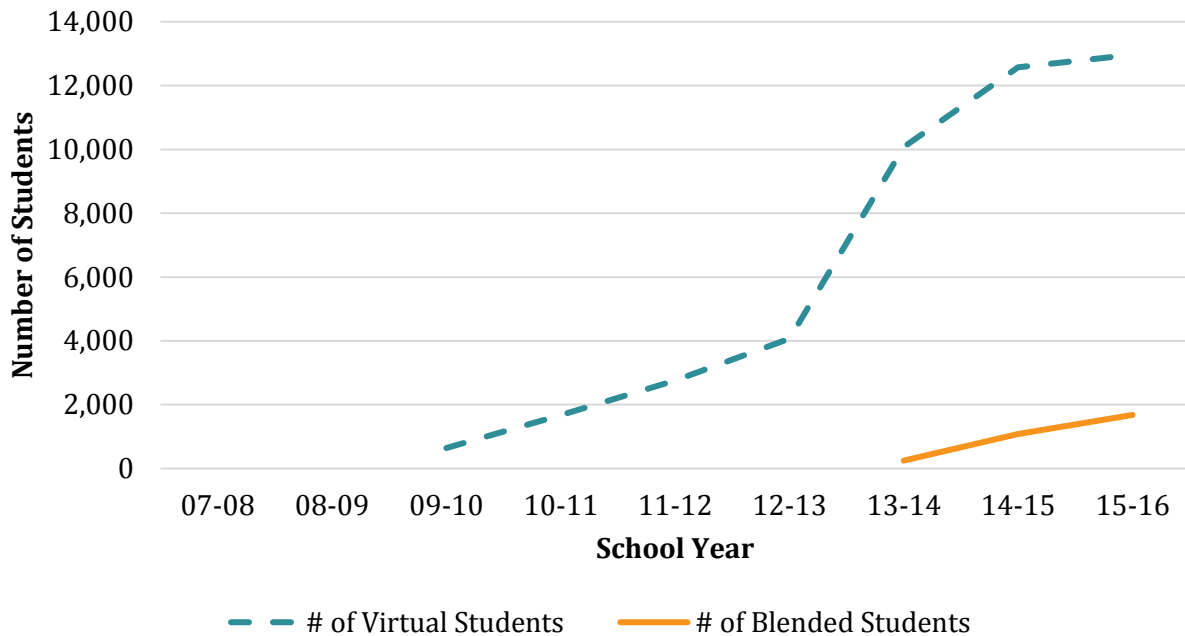


Figure 17. Michigan Enrollment in Full-time Virtual and Blended Learning Schools

Table 16 illustrates the number of full-time virtual schools and the students they served, broken out by district or charter schools. The charter virtual schools were much larger in size and had more than 800 students on average, and the district virtual schools had, on average, 94 students per school. While districts accounted for 83% of the virtual schools, the charter virtual schools enrolled just over 65% of all virtual school students in Michigan.

Table 16. Distribution of Michigan Virtual Schools and Students across District and Charter Sectors, 2015-16

	# of Virtual Schools	% of Virtual Schools	# of Virtual Schools with Enrollment Data	# of Virtual Students	% of Virtual Enrollments	Average Enrollment Per School
District	55	83.3%	51	4,776	34.5%	93.6
Charter	11	16.7%	11	9,067	65.5%	824.3
Total for All Virtual Schools	66	100.0%	62	13,843	100.0%	223.3

Table 17 depicts the breakout of virtual schools by operator. Most of the virtual schools were independent (i.e., they were not operated by a private EMO). The district virtual schools were nearly all independent, although many of them had a vendor relationship with the large private EMOs; in other words, they contracted with the private EMOs so they could use their curriculum and learning platforms.

Most of the charter virtual schools were started and operated by private EMOs. The two largest private EMOs were K12 Inc. and Connections Academy. Together, these two EMOs accounted for close to 60% of all virtual school students in Michigan. The average school size for these two for-profit EMOs was very large relative to the other virtual schools. In Michigan, none of the virtual schools were operated by nonprofit EMOs.

Table 17. Distribution of Michigan Virtual Schools and Students by Operator Status 2015-16

	# of Virtual Schools	% of Virtual Schools	# of Virtual Schools with Enrollment Data	# of Virtual Students	% of Virtual Enrollments	Average Enrollment Per School
Independent	54	81.8%	50	4,725	34.1%	94.5
Nonprofit EMO	0	—	0	0	0.0%	—
For-profit EMO	12	18.2%	12	9,118	65.9%	759.8
<i>K12 Inc.</i>	4	6.1%	4	5,911	42.7%	1,477.8
<i>Connections Academy</i>	2	3.0%	2	2,372	17.1%	1,186.0
Total for All Virtual Schools	66	100.0%	62	13,843	100.0%	580.0

Most students enrolled in virtual schools were concentrated at the high school level. Figure 18 depicts the number of virtual school students per school. This figure also illustrates the number of schools that served students at each of the grade levels. At the elementary level there were 10 virtual schools enrolling students, while in the upper secondary grades there were 54 schools enrolling students. While the charter virtual schools and the virtual schools operated by EMOs were more likely to serve students across a wide range of grades, the smaller district operated virtual schools tended to focus more on the upper secondary grade levels.

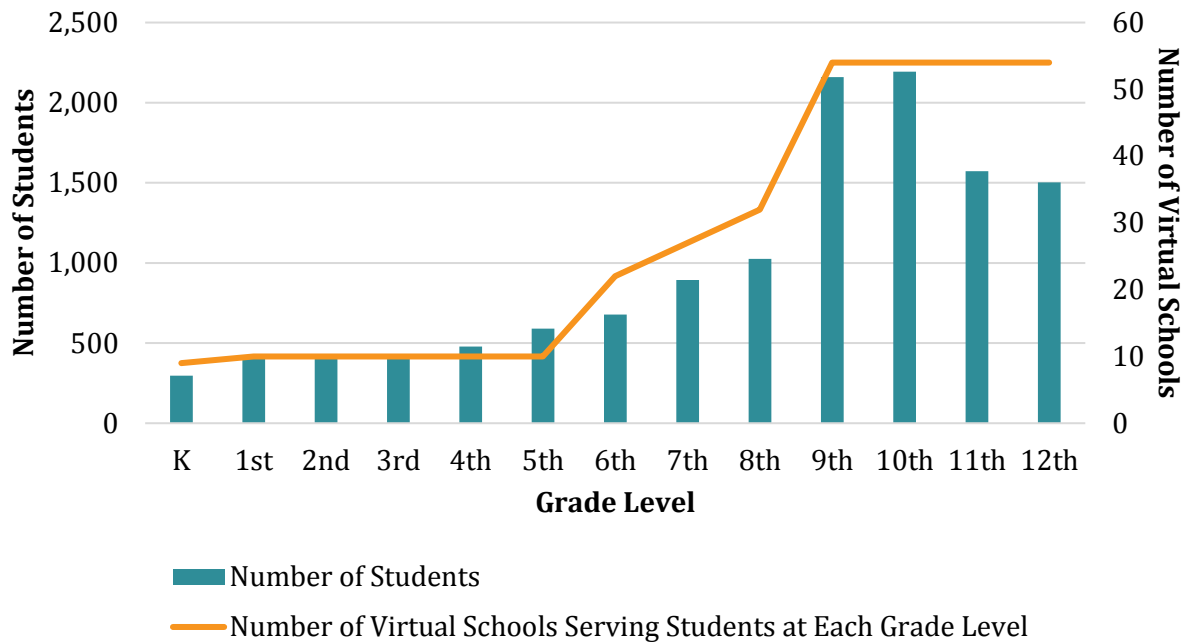


Figure 18. Michigan Number of Virtual School Students per Grade Level and Number of Schools that Offered Instruction at Each of the Grade Levels, 2014-15

White students made up around 70% of the students in Michigan’s virtual and blended learning schools (see Figure 19). This was slightly higher than the state average (67.7% white students) and noticeably higher than the national average (49.8% white students). Hence, minorities in Michigan virtual schools are consistent with the overall Michigan data, though they appear to be slightly underrepresented in Michigan’s blended learning schools.

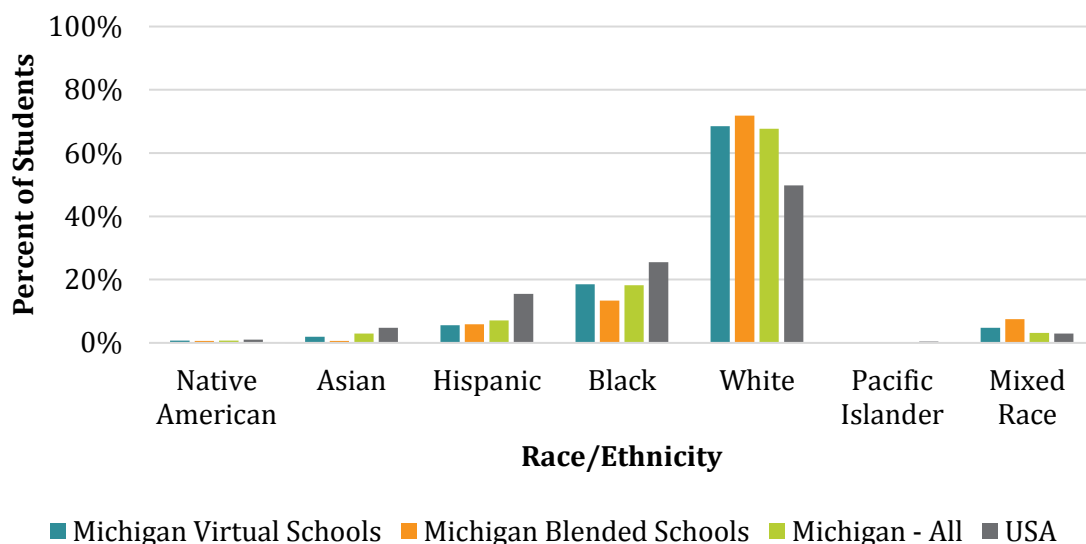


Figure 19. Race/Ethnicity for Students Enrolled in Michigan Virtual and Blended Learning Schools

The proportion of students with disabilities in virtual (12.2%) and blended learning schools (12.1%) are relatively similar to the norms for all virtual schools and public schools in the state (12.9%) and in the nation (13.1%). Although the proportion of students with disabilities is similar, this does not imply that the distribution of children with mild, moderate and severe disabilities is similar across the two sectors. Evidence suggests that for charter schools on the whole they have lower proportions of students with moderate and severe disabilities, which are more costly to remediate (Miron, 2014).

The virtual schools in Michigan had higher concentrations of low-income students (52.6%) relative to the state average of 45.2% and the national average of 45.4%. Both the virtual and blended schools in Michigan had substantially lower proportions of students classified as ELL (i.e., virtual schools had 1.3% ELL students, the blended schools had 2.7% while the state average was 5.3% ELL – see Figure 20).

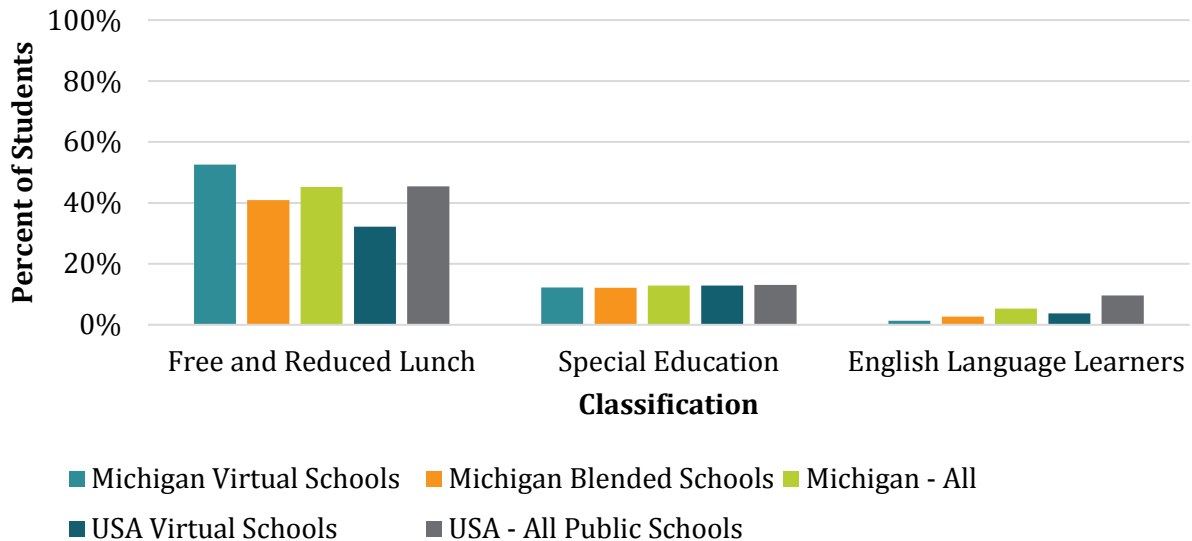


Figure 20. Proportion of Students Classified as Special Education or as ELL, 2014-15

Another key demographic variable is student gender. Girls were more prevalent in the virtual schools (52.7%), although in the blended learning schools girls were underrepresented (48.3%).

The virtual schools in Michigan had far more students per teacher (65 on average) compared with state norms (18 students per teacher) and national norms for all public schools (16 students per teacher).¹² The student-teacher ratio in Michigan was nearly twice as large as the student-teacher ratios in virtual schools in the other four state case studies.

¹² Michigan's 65 students per teacher average reflects a significant outlier of a school with a student-to-teacher ratio of 356:1. However, even if the median is substituted as a more accurate measure, its value of close to 39:1 is still above both the state and national averages.

Table 18. Michigan Student-to-Teacher Ratios in Virtual Schools

	# of Virtual Schools with Data	Median	Mean	SD	Max	Min
All Virtual Schools	12	38.5	64.7	96.20	356.0	2.20
Independent Virtual	9	17.0	37.7	33.10	90.0	2.20
For-Profit Virtual	3	54.6	145.9	182.50	356.0	27.00
K12 Inc.	1	54.6	54.6	0.00	54.6	54.60
Connections Academy	1	27.0	27.0	0.00	27.0	27.00
District Virtual	9	17.0	71.7	111.54	356.0	2.20
Charter Virtual	3	50.0	43.9	14.80	54.6	27.00
National Average			16.1			

Slightly more than half of the virtual schools in Michigan received school performance ratings that were deemed acceptable according to state guidelines (see Table 19). Two-thirds of the blended learning schools received acceptable ratings. The state school performance rating system provides a crude measure of school performance since this takes into account a small number of indicators and it groups schools into relatively few categories. Readers are encouraged to look more closely at details related to performance shared by state entities.

Table 19. Michigan Proportion of Virtual and Blended Schools with Acceptable State Performance Ratings

	Acceptable		Unacceptable		# of Virtual Schools with No Ratings
	N	% of Virtual Schools with Ratings	N	% of Virtual Schools with Ratings	
Full-time Virtual	27	55.1%	22	44.9%	1
For-profit	4	40.0%	6	60.0%	
K12 Inc.	2	50.0%	2	50.0%	
Connections Acad.	1	50.0%	1	50.0%	
Other EMO	1	25.0%	3	75.0%	
Independent	23	59.0%	16	41.0%	1
Full-time Blended	14	66.7%	7	33.3%	

Another relevant measure of school performance is the on-time graduation rate. Michigan had 45 virtual schools with available four-year graduation rates. The overall graduation rate average was 35.37%. This is considerably lower than the state graduation rate of 79.8% or the national average of 83.2%. The two Connections Academy schools had a rate of 57.9%, and the four K12 Inc. schools had a rate of 28.7%. However, the overall difference between independent virtual schools (16 schools with an average of 34.2%) and for profit virtual schools (nine schools with an average of 35.9%) was negligible. The 20 blended schools in Michigan performed worse on this measure, with an average of only 30.8% of students graduating in four years. The four for-profit blended schools had a significantly higher graduation rate average of 53.1% compared to the 16 independent blended schools whose average rate was 17.2%.

Research

Unlike other jurisdictions, significant research has taken place in Michigan in recent years. In 2012, legislation was passed that required *MVU* to create an online learning research center. This center

would become known as the *Michigan Virtual Learning Research Institute*® (MVLRI®), which is focused on advancing:

- Research – expand the K-12 online and blended learning knowledge base through high quality, high-impact research;
- Policy – inform local, state, and national public education policy strategies that reinforce and support online and blended learning opportunities for the K-12 community;
- Innovation – experiment with new technologies and online learning models to foster expanded learning opportunities for K-12 students; and
- Networks – develop human and web-based applications and infrastructures for sharing information and implementing K-12 online and blended learning best practices.¹³

Each year, as a part of the State School Aid Act, MVLRI is directed to undertake 15-20 tasks¹⁴ focused on these four areas.

One of the directives given to MVLRI each year is to “analyze the effectiveness of virtual learning delivery models in preparing pupils to be college- and career-ready and publish a report that highlights enrollment totals, completion rates, and the overall impact on pupils.”¹⁵ Over the last 4 years, in each of these annual reports, researchers have found that students enrolled in online courses offered by the *Michigan Virtual School*® (MVS®) had a higher completion/passing rate than students enrolled in online courses offered by local school districts, both of which had higher completion/passing rates than the state’s full-time virtual schools (Freidhoff, 2015, 2016, 2017; Freidhoff, DeBruler, & Kennedy, 2014). Other than the fact that the full-time virtual schools had the lowest completion rate of any of the forms of K-12 online learning, the effectiveness reports do not speak directly to the virtual school performance data presented in the previous section. However, the fact that the majority of virtual schools were found to have an acceptable rating may help explain the fact that the Center for Research on Education Outcomes found that Michigan virtual schools had the strongest student performance in math (a -0.008 effect size) and second strongest performance in reading (an 0.044 effect size) – although neither result was found to be a statistically significant difference from students in the traditional brick-and-mortar environment (Woodworth et al., 2015).

Similarly, DeGrow and Klinger (2017) found that “averaged as a whole, the group of seven cyber schools perform very nearly as expected given the socioeconomic status of their students” (p. 11). Though the research effort was not exclusive to cyber schools, but rather looked at all Michigan public high schools, it is interesting to note that the authors chose to focus exclusively on socioeconomic status (as determined by the percentage of students eligible for free and reduced lunch) as the lone factor, especially given the data above that indicated that there were indeed a slightly higher proportion of low income students enrolled in virtual schools. Additionally, there are

¹³ The bulleted list quote is standard language in MVLRI publications, including page 1 of this report.

¹⁴ See [http://www.legislature.mi.gov/\(S\(ah0jp0r2dfwhkmmkqmr2rtxo\)\)/mileg.aspx?page=getObject&objectName=mcl-388-1698](http://www.legislature.mi.gov/(S(ah0jp0r2dfwhkmmkqmr2rtxo))/mileg.aspx?page=getObject&objectName=mcl-388-1698)

¹⁵ See <http://mvlri.org/About-Us/Directives>

other factors such as the proportion of English language learner, special education students, etc., that if included in the modeling may have yielded a different outcome. It is also worth noting that the non-partisan Mackinaw Center is described as a free market think tank, which lists as its accomplishments a variety of school choice and anti-labor initiatives.

In addition to examining the performance of students based on the type of K-12 online learning that they were receiving, the *MVLRI* effectiveness reports also provide a robust picture of the nature of students engaged in K-12 online learning. For example, during the 2015-16 school year, roughly the same percentage of male and female students enrolled in virtual courses (Freidhoff, 2017). Similarly, virtual students were more likely to be White (66%) and more likely to be classified as living in poverty (54%). Interestingly, African American students – who made up 19% of all virtual enrollments – had the lowest pass rate (51%) of any racial or ethnic group. In comparison to the data presented above, *MVLRI* data represents all virtual course enrollments, not just those students enrolled in full-time virtual schools. In fact, full-time virtual school enrollments (i.e., “virtual learners attended a PSA cyber school or an LEA Full-time virtual school”) made up only 20% of the students represented by the *MVLRI* data.

The *Michigan K-12 Virtual Learning Effectiveness Report* does not contain information on student-teacher ratio. However, the *MVLRI 2015-16 Annual Report* referenced a study that examined the effect of student-teacher ratio on student achievement in the supplemental *MVS* (*MVLRI*, 2016).¹⁶ Interestingly, in a presentation on this study, Lin, Zheng, and Freidhoff (2016) reported that the smallest classes (i.e., generally fewer than five students per teacher) had lower performance. But as class size increased, so did students’ performance – at least until the class size reached between 42-45 students, at which point student performance began to decrease. While these results were based on supplemental online learning programs, it should be noted that earlier we reported that the student-to-teacher ratios for Michigan full-time virtual schools exceeded 42-45 students per teacher.

In addition to these effectiveness reports and annual reports, *MVLRI* has also engaged in a variety of other research initiatives. For example, *MVLRI* has sponsored research focused on the role of the local level or school-based mentor in supporting students engaged in online learning (Borup & Stimson, 2017). As a part of that line of inquiry, *MVLRI* developed 10 case studies that described the characteristics and actions of successful mentors (Stimson, Freidhoff, & Kennedy, 2014). These reports added to the body of literature *MVU* offered that was focused on supporting students in the online learning environment, including their *Mentor Fundamentals: A Guide to Mentoring Online Learners* and *Parent Guide to Online Learning*.¹⁷ In addition to the focus on supporting students engaged in online learning, *MVLRI* has also sponsored reports that have examined the focus teacher preparation programs give to online learning (Archambault et al., 2016), how online teachers are supported and evaluated (Kennedy, 2015), how to use student data in credit recovery and Algebra I

¹⁶ The study is described as “Lin, C.-H., & Bae, J. (under review). The effect of class size in online K-12 courses. Manuscript submitted to a peer-reviewed journal.” in the *MVLRI 2015-16 Annual Report*.

¹⁷ See <https://micourses.org/resources/pdf/toolkit/mentorguide.pdf> and http://www.mivu.org/Portals/0/1_GD_Parent2013_Feb14.pdf respectively.

courses (Kwon, 2017; Lowes & Lin, 2017), the potential for using games and gaming within the K-12 online learning environment (Beck, 2017), mechanisms that different jurisdictions and programs use to ensure quality and accountability (Archambault, Kennedy, Freidhoff, Bruno, DeBruler, et al., 2015; Clark, 2016), and the possibilities offered by massive open online courses in the K-12 environment (Ferdig, 2014; Ferdig, Pytash, Merchant, & Nigh, 2014) – just to name a few.¹⁸

Beyond the research conducted by *MVLRI*, there have been additional studies focused on virtual schooling in Michigan. For example, Dickson (2005) conducted a study of the course statistics generated for individual students by the *MVS* learning management system (LMS) to determine if the analytics generated by the LMS could inform the virtual school's administration and individual teachers. More recently, DiPetro, Ferdig, Black, and Preston (2008) described 37 best practices for asynchronous online teaching based on the perceptions of 16 online teachers identified as effective by the *MVS*. Later, DiPietro (2010) outlined five beliefs of 'successful' asynchronous pedagogic practices based on interviews with *MVS* virtual school teachers. Coupled with the research conducted by *MVLRI*, the K-12 online learning research focused on the state of Michigan represents one of the most extensive bodies of literature of any jurisdiction in the United States.

Unlike the other jurisdictions, Michigan is the one state where there has been some empirical research conducted on blended learning. For example, to date *MVLRI* has released two reports as a part of their *The Changing Roles of Educators* series that have focused on how the integration of technology into the education system has impacted the role of the blended learning coach (defined in the report as “educators, working for an outside organization, [that] provide guidance to teachers, administrators, and other school- and district-level personnel about how to holistically and meaningfully customize face-to-face and online learning for K-12 students” [p. 3]), as well as how the role of the classroom teacher was evolving as they engaged in instances of blended learning (Bruno, 2017; Bruno & Kennedy, 2016). Other studies have focused on the perceptions of students engaged in blended learning programs (Werth et al., 2016), as well as the experiences of teachers and how they formally and informally learned about blended learning (Roberts & Stimson, 2016). Additionally, it was reported in the most recent *Michigan K-12 Virtual Learning Effectiveness Report* that “Blended Learning enrollments accounted for 11% of the virtual enrollments and had a pass rate of 80%” (Freidhoff, 2017, p. 8). However, it is important to note that most of these studies the emphasis is placed on teachers or students engaged in blended learning practices within more traditional brick-and-mortar schools, as opposed to students and teachers in blended learning schools.

Shifting from the research related to the practice of virtual schooling to the literature focused on virtual school policy, one of the first published reports was Watkins (2005), which was designed “to advance quality e-learning opportunities in the State of Michigan and to assist Michigan Virtual High School in expanding its offerings to schools throughout Michigan” (p. 5). One of the recommendations from that report stressed that:

18 See <http://mvlri.org/Publications/Library> for a complete collection of MVLRI publications.

To ensure public accountability, [MVU] should annually report critical demographic data on students served. The report should include, but not be limited to, reporting of gender, race, ethnicity, students receiving free or reduced lunches, schools meeting adequate yearly progress targets, and the number of students using e-learning supplemental service options. A literature review of e-learning and closing the achievement gap indicates that many states are collecting, disaggregating, analyzing and reporting just such data already. It is important that policy makers have this data at their disposal so they may make informed decisions governing e-learning policies. (p. 22)

It is worth noting that the *MVS* does report annually to the legislature on its performance, a practice that began around the same time this report was published. While the Watkins' report was focused on the statewide supplemental online learning program, the notion that systematic data should be used by policy makers to allow them to make informed decisions about K-12 online learning policy was sound advice.

Interestingly, Pazhouh et al. (2015) identified Michigan as one of the states that, "have studied or are currently studying and making policy recommendations regarding online school accountability and governance issues to inform future legislation" (p. 14). However, the commitment to use systematic data and research to inform legislation has also been called into question (Molnar et al., 2017). To illustrate one example, *MVLR*'s effectiveness reports have indicated that supplemental virtual schooling has been found to be effective, at least more effective than full-time virtual schooling (Freidhoff, 2015, 2016, 2017; Freidhoff et al., 2014). This is not to say that these reports have suggested that one form virtual schooling is better than the other, only that the conditions under which both forms have been implemented have resulted in different outcomes. While full-time virtual schooling has been found to be implemented in ineffective ways, recent legislation has largely been focused on removing barriers to these full-time virtual charter schools. As described in the most recent NEPC *Virtual Schools in the U.S. 2017* report (Molnar et al., 2017), legislators lifted a ban on virtual charter schools in 2009, allowing two to be operated by the major for-profit EMOs. Both virtual charter schools were initially limited in size; after two years the Department of Education would determine future enrollment limits based on the student performance. Following two years of performance consistent with the research described above (i.e., poor student outcomes) and only months before the review from the Department, legislators removed the existing restrictions of two virtual charter schools that were limited to 1,400 students each, and allowed up to 15 virtual charter schools with a cap of 2% of the overall K-12 enrollment in the state (or approximately 31,800 students). Since 2012, even with the significant performance differences that *MVLR*'s effectiveness reports have consistently identified, the legislature has not strengthened oversight or restrictions on these full-time virtual charter schools.

Key Policy Issues

In 2016, the Michigan Legislature proposed a total of four bills related to virtual schools; one was enacted and three are pending. The focus of the bills ranged from additional professional development support for teachers on integrating digital technology into instruction, funding for the

development of an online course clearinghouse, minimum requirements that define virtual students' pupil membership, and reducing funding for virtual charter schools.

In an effort to bring order to the growth of available digital curriculum, states are starting to focus on creating clearinghouses of reviewed and approved online courses and providers. *MVLRI* was authorized in MI S216 to maintain a public statewide catalog of online courses and provide recommendations and statistics on courses. The bill also provided funding for expanded professional development for teachers on integrating digital technology into curricula and instruction.

The Michigan Legislature also focused on important oversight issues related to the governance and funding of virtual schools. Consistent with attempts to curb or align funding with actual costs of operating a virtual school, evidenced in other states in 2016 (e.g., New Mexico, Oregon, Kansas), in Michigan (MI H5897) a pending bill proposes to reduce state foundation aid payments (for districts in which a "cyber charter" school is located) to one-third the amount that would otherwise be provided to "non-cyber charter schools" (aka, "public school academies" per Michigan statute). Another pending bill (MI S824) would require the Michigan Department of Education to establish standards for hardware, software, and Internet access for pupils enrolled in more than two virtual courses in an academic term. In addition, the bill would require the department to define the minimum requirements for a virtual student to be considered as part of the pupil membership.

Summary and Recommendations

The purpose of this report was to use the data from the National Education Policy Center's *Virtual Schools in the U.S. 2017: Politics, Performance, Policy, and Research Evidence* report to undertake a more in-depth analysis of five states (i.e., Ohio, Wisconsin, Idaho, Washington, and Michigan) in order to produce case studies for each of these states. The value of these case studies is to illustrate how a national perspective, such as the one taken in the original *Virtual Schools in the U.S. 2017* report, needs to be interpreted with caution when focusing upon a specific state. Follow-up research, such as the state-specific examples presented here, help identify that some of the major claims in the original report readily apply when looked at from an individual state's perspective. However, at the same time some of the state-specific examples reflect a more fine-grained opportunity to understand important variations from the national trends.

A review of the five case studies reveals a great degree of consistency between the different states. For example, most of the full-time virtual schools in each of the five states were independent (i.e., not run by EMOs) (see Table 20).

Table 20. Percentage of Virtual Enrollments in Each State by Operator Status 2015-16

	Ohio	Wisconsin	Idaho	Washington	Michigan
For-profit EMO virtual schools	8	6	4	8	12
Total number of virtual schools	34	28	13	30	66
Percentage of EMO virtual schools	23.5%	21.4%	30.8%	26.7%	18.2%

However, the vast majority of students attend a virtual school that was operated by an EMO (see Table 21).

Table 21. Percentage of Virtual Enrollments in Each State by Operator Status 2015-16

	Ohio	Wisconsin	Idaho	Washington	Michigan
Independent	19.2%	45.6%	34.8%	37.6%	34.1%
Nonprofit EMO	2.5%				
For-profit EMO	78.3%	54.4%	65.2%	62.4%	65.9%
<i>K12 Inc.</i>	26.8%	36.5%	42.1%	62.0%	42.7%
<i>Connections Academy</i>	8.7%	9.5%	15.7%		17.1%
<i>ECOT</i>	36.2%				
Total Virtual School Students	39,500	6,476	6,078	10,616	13,843

Essentially, while only 38 of the 171 virtual schools were run by EMOs (22.2%), these EMO virtual schools enrolled 70.8% or 54,157 of the 76,513 students enrolled in virtual schools in these five states.

There was also a great deal of consistency in the representation of various demographic categories for most virtual school students (see Table 22). With the exception of Michigan, virtual schools enrolled a higher proportion of White students and a lower proportion of minority students compared to the state averages for those categories. Similarly, virtual schools in all states enrolled a lower proportion of ELL students than the state averages.

Table 22. Demographic Data for Students in Virtual Schools in Each State Relative to State Averages

	White	Minority	Special Education	FRL	ELL
Ohio	-	-	-	↓	↓
Wisconsin	↑	↓	↓	↓	↑
Idaho	↑	↓	-	↑	↓
Washington	↑	↓	-	↓	↓
Michigan	-	-	-	↑	↓
National	↑	↓	-	↓	↓

The majority of the five states followed the national trends of having a higher proportion of White students, a lower proportion of minority students, and approximately the same proportion of students with disabilities. Four of the five states enrolled a lower proportion of ELL students (i.e., Ohio, Idaho, Wisconsin, and Washington). The proportion of students receiving FRL was the most inconsistent category – with three states having a lower proportion enrolled in virtual schools as their state averages, which was consistent with the national trend, and two state enrolling a larger proportion. Interestingly, the independent research that was available generally supported these findings.

Virtual schools also had far more students for each teacher compared to traditional public schools in each of the five states (see Table 23).

Table 23. Student-Teacher Ratios in Virtual Schools in Each State

	Ohio	Wisconsin	Idaho	Washington	Michigan*
All Virtual Schools	28.7	31.9	33.0	38.1	64.7 (38.5)
Independent Virtual	29.1	31.5	27.7	40.5	37.7
Nonprofit Virtual	25.5				
For-Profit Virtual	28.1	33.0	45.4	33.6	145.9 (54.6)
<i>K12 Inc.</i>	50.7	27.0	53.1	34.4	54.6
<i>Connections Acad.</i>	37.8	41.7	45.6		27.0
<i>ECOT</i>	15.0				
District Virtual	27.1	15.0	33.4	38.1	71.7 (17.0)
Charter Virtual	28.8	33.0	33.0		43.9
State Average	16.2	14.9	18.6	18.0	18.1
National Average	16.1	16.1	16.1	16.1	16.1

** Given the outlier issue mentioned earlier, medians are also reported in parentheses for means that were impacted by the outlier.*

Given that for-profit virtual schools enroll the vast majority of students in each of these states, it is important to note that the for-profit EMOs have among the highest student-teacher ratios in most of these five states.

The high student-teacher ratio may be a significant factor in understanding the fact that in the states that reported some kind of performance rating the virtual school students underperformed compared to their traditional public school counterparts. As much of the literature related to virtual schooling in these five states focused on student performance (with the exception of the literature

related to Michigan), it was interesting to find that the majority of the independent research was consistent in their finding that students who attended full-time virtual schools largely underperformed their brick-and-mortar counterparts.

Beyond the independent research into student enrollment, student characteristics, and student performance, with the exception of Michigan there was a general lack of empirical research related to full-time virtual schools (and almost no research related to blended schools). Similarly, with the exception of Idaho, there was also a general lack of legislative activity over the two years reviewed for this report (see Table 24).

Table 24. Summary of Virtual School Legislative Activity in Each State

State	Bills	Enacted	Failed	Pending
Ohio	2	1	0	1
Wisconsin	1	1	0	0
Idaho	6	5	1	0
Washington	1	1	0	0
Michigan	3	1	0	2

In the case of Idaho, five of the six bills related to virtual schooling over the past two years were enacted into law. Unfortunately, none of those bills included any meaningful accountability measure related to student performance.

Given that each of these five case studies was generated using data from the latest *Virtual Schools in the U.S.: Politics, Performance, Policy, and Research Evidence* report, it is important to examine the recommendations made by Molnar et al. (2017), as we believe the policy implications across these five jurisdictions is consistent with the national data.¹⁹ As one would imagine, there is also a great deal of consistency between the recommendations based on the data from these five states with the national report.

In the original *Virtual Schools in the U.S.: Politics, Performance, Policy, and Research Evidence* report, Larry Cuban wrote that “the current climate of K-12 school reform promotes uncritical acceptance of any and all virtual [and blended] education innovations, despite lack of a sound research base supporting claims that technology in and of itself will improve teaching and learning” (Molnar et al., 2013, p. 67). Even after five years of additional data, this largely uncritical enthusiasm for virtual and blended schooling continues at a policy level. Given this reality, we recommend that ***policymakers slow or stop the growth in the number of virtual schools and the size of their enrollments until the reasons for their relatively poor performance have been identified and addressed. They should prioritize understanding why virtual schools perform poorly under a college- and career-ready accountability system and how their performance can be improved prior to expansion.*** Almost all of the independent research supports the poor performance of virtual schools and, to a lesser extent, blended schools. Even charter school advocacy organizations like the National Alliance for Public Charter Schools, the 50-State Campaign for Achievement Now,

¹⁹ See pages 33-34, 60-61, and 91-92 of Molnar et al. (2017) for the complete list of recommendations from the overall *Virtual Schools in the U.S. 2017: Politics, Performance, Policy, and Research Evidence* report.

and the National Association of Charter School Authorizers (2016) have called for “state leaders and authorizers across the country... to make the tough policy changes necessary to ensure that this model works more effectively than it currently does for the students it serves” (p. 2).

One of the ways in which policymakers can better understand student performance in virtual and blended schools is for ***policymakers to create long-term programs to support independent research on and evaluation of virtual and blended schooling***. More than 20 years after the first virtual schools began, there continues to be a dearth of empirical, longitudinal research to guide the practice and policy of virtual schooling. This reality is particularly true of the virtual and blended schools operated by for-profit EMOs, where independent researchers are often unable to gain access to potential research sites and participants.

However, beyond the creation of systematic programs of research, policymakers must – to use the words of the National Alliance for Public Charter Schools, the 50-State Campaign for Achievement Now, and the National Association of Charter School Authorizers – ‘make the tough choices’ based upon that research. ***Policymakers need to develop new funding formulas based on the actual costs of operating virtual schools and new accountability structures for virtual schools, including guidelines and governance mechanisms to ensure that virtual schools do not prioritize profit over student performance. Further policymakers need to assess the contributions of various providers to student achievement, and close virtual schools and programs that do not contribute to student growth***. Updating policies to incentivize and encourage behavior and activities that align with producing desired student learning outcomes will allow for implementing virtual schools with greater fidelity to their intended purpose.

Finally, one of the main differences in the data between the delivery of virtual and blended schooling compared to traditional brick-and-mortar schooling appears to be the number of students virtual and blended teachers served. Additionally, one of the areas that the *Michigan Virtual Learning Research Institute* has identified as important to student success is the nature of support virtual and blended students receive, including from teachers in a variety of positions (e.g., teachers, facilitators, coaches, etc.). Given these realities, ***policymakers need to define certification training and relevant teacher licensure requirements specific to teaching responsibilities in virtual schools, require research-based professional development to promote effective online teaching models, and work with emerging research to develop valid and comprehensive teacher evaluation rubrics that are specific to online teaching***. It is widely accepted that while there may be some overlap in the knowledge, skills and abilities required of teachers in general, teaching in a virtual or blended school also requires unique knowledge, skills and abilities where many teachers are currently unprepared.

In each of these recommendations, there is the overarching theme that it is time for policymakers to recognize that virtual schools – and many blended schools – provide a form of education that is largely independent, often delivered in a home-based environment. Educating a child in this kind of unique environment is critically different from educating a child in a traditional face-to-face, brick-and-mortar school. Acceptance of this reality leads to a single conclusion, virtual and blended schools should not be governed in the same fashion as brick-and-mortar schools.

References

- 2007 Wisconsin Act 222. Retrieved from <http://docs.legis.wisconsin.gov/2007/proposals/reg/sen/bill/sb396>
- Ahn, J. (2016). *Enrollment and achievement in Ohio's virtual charter schools*. Washington, DC: Thomas B. Fordham Institute. Retrieved from <https://edexcellence.net/publications/enrollment-and-achievement-in-ohios-virtual-charter-schools>
- Ahn, J., & McEachin, A. (2017). Student enrollment patterns and achievement in Ohio's online charter schools. *Educational Researcher*, 46(1), 44-57. Retrieved from <http://journals.sagepub.com/doi/pdf/10.3102/0013189X17692999>
- Archambault, L., Kennedy, K., DeBruler, K., Shelton, C., Dalal, M., McAllister, L., & Huyett, S. (2016). *Examining teacher education programs and field experiences in k-12 online learning environments*. Lansing, MI: Michigan Virtual University. Retrieved from <http://media.mivu.org/institute/pdf/examinete2016.pdf>
- Archambault, L., Kennedy, K., Freidhoff, J. R., Bruno, J., DeBruler, K., & Stimson, R. (2015). *Accountability in K-12 online learning course access programs: Stakeholder recommendations for policy and practice*. Lansing, MI: Michigan Virtual University. Retrieved from http://media.mivu.org/institute/pdf/Accountability_2015.pdf
- Barbour, M. K., Clark, T., DeBruler, K., & Bruno, J. A. (2014). *Evaluation and approval constructs for online and blended courses and providers*. Lansing, MI: Michigan Virtual Learning Research Institute at MVU. Retrieved from http://media.mivu.org/institute/pdf/eval_constructs.pdf
- Barbour, M. K., Clark, T., DeBruler, K., & Bruno, J. A. (2016). Evaluation and approval constructs for online and blended courses and providers: A national overview. *Journal of Applied Educational and Policy Research*, 2(1), 32-47. Retrieved from <https://journals.uncc.edu/jaepr/article/view/469>
- Beck, D. (2017). *Games used in K-12 schools: A research perspective*. Lansing, MI: Michigan Virtual University. Retrieved from <http://media.mivu.org/institute/pdf/gamesinschools.pdf>
- Borup, J., & Stimson, R. (2017). *Helping students be successful: Mentor responsibilities*. Lansing, MI: Michigan Virtual University. Retrieved from <http://media.mivu.org/institute/PDF/helping-students-mentors-responsibilities.pdf>
- Bracey, G. W. (2004). *Knowledge universe and virtual schools: Educational breakthrough or digital raid on the public treasury?* Tempe, AZ: Arizona State University. Retrieved from <http://epsl.asu.edu/epru/documents/EPsL-0404-118-EPRU.pdf>
- Bruno, J. (2017). *The changing roles of educators series: The blended teacher*. Lansing, MI: Michigan Virtual Learning Research Institute. Retrieved from <http://media.mivu.org/institute/pdf/blendedteacher.pdf>
- Bruno, J., & Kennedy, K. (2016). *The changing roles of educators series: The blended learning coach*. Lansing, MI: Michigan Virtual Learning Research Institute. Retrieved from <http://media.mivu.org/institute/pdf/blended.pdf>
- Burke, A., & Wang, C. (2010). *A descriptive analysis of Idaho virtual charter school student academic performance from 2004 to 2009*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northwest. Retrieved from <https://www.sde.idaho.gov/school-choice/charter/files/general/research/Virtual-School-Study.pdf>

- Clark, T. (2016). *Quality assurance in K-12 online learning programs: Michigan case studies*. Lansing, MI: Michigan Virtual Learning Research Institute. Retrieved from <http://media.mivu.org/institute/PDF/QA-report.pdf>
- Clements, M., Stafford, E., Pazzaglia, A. M., & Jacobs, P. (2015). *Online course use in Iowa and Wisconsin public high schools: The results of two statewide surveys* (REL 2015-065). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Midwest. Retrieved from <http://files.eric.ed.gov/fulltext/ED553644.pdf>
- DeGrow, B., & Klinger, R. (2017). *The Michigan context and performance report card: High schools 2016*. Midland, MI: Mackinac Center for Public Policy. Retrieved from <http://www.mackinac.org/archives/2017/s2017-01.pdf>
- DiPietro, M. (2010). Virtual school pedagogy: The instructional practices of K-12 virtual school teachers. *Journal of Educational Computing Research*, 42(3), 327 – 354.
- DiPietro, M., Ferdig, R. E., Black, E. W. & Preston, M. (2008). Best practices in teaching k-12 online: Lessons learned from Michigan Virtual School teachers. *Journal of Interactive Online Learning*, 7(1). Retrieved from <http://www.ncolr.org/jiol/issues/getfile.cfm?volID=7&IssueID=22&ArticleID=113>
- Ferdig, R. E. (2013). *What massive open online courses have to offer K-12 teachers and students*. Lansing, MI: Michigan Virtual Learning Research Institute. Retrieved from http://media.mivu.org/institute/pdf/mooc_report.pdf
- Ferdig, R. E., Pytash, K. E., Merchant, W., & Nigh, J. (2014). *Findings and reflections from the K-12 teaching in the 21st century MOOC*. Lansing, MI: Michigan Virtual Learning Research Institute. Retrieved from http://media.mivu.org/institute/pdf/Mooc_Findings.pdf
- Freidhoff, J. R. (2015). *Michigan's K-12 virtual learning effectiveness report 2013-14*. Lansing, MI: Michigan Virtual Learning Research Institute. Retrieved from http://media.mivu.org/institute/pdf/er_2014.pdf
- Freidhoff, J. R. (2016). *Michigan's K-12 virtual learning effectiveness report 2014-15*. Lansing, MI: Michigan Virtual Learning Research Institute. Retrieved from http://media.mivu.org/institute/pdf/er_2015.pdf
- Freidhoff, J. R. (2017). *Michigan's K-12 virtual learning effectiveness report 2015-16*. Lansing, MI: Michigan Virtual Learning Research Institute. Retrieved from http://media.mivu.org/institute/pdf/er_2016.pdf
- Freidhoff, J. R., DeBruler, K., & Kennedy, K. (2014). *Michigan's K-12 virtual learning effectiveness report*. Lansing, MI: Michigan Virtual Learning Research Institute. Retrieved from http://www.mivu.org/Portals/0/Effectiveness_Report_PRINT.pdf
- Finne, L. (2008). *Learning online: An assessment of online public education programs*. Seattle, WA: Washington Policy Center. Retrieved from <http://docplayer.net/6354983-Learning-online-an-assessment-of-online-public-education-programs.html>
- Gill, B., Walsh, L., Wulsin, C. S., Matulewicz, H., Severn, V., Grau, E., ... & Kerwin, T. (2015). *Inside online charter schools*. Cambridge, MA: Mathematica Policy Research. Retrieved from https://www.mathematica-mpr.com/~media/publications/pdfs/education/inside_online_charter_schools.pdf

- Innovation Ohio. (2011). *Ohio e-schools: Funding failure; Coddling contributors*. Columbus, OH: Author. Retrieved from <http://69.195.124.74/~innovby5/wp-content/uploads/2011/05/IO.051211.eschools.pdf>
- Johnson, Thurow, McLaughlin, & Wisconsin Education Association Council v. Burmaster, Northern Ozaukee School Lallensack, & Clarke, 2006AP1380 (2008 WI APP 4). Retrieved from <https://www.wicourts.gov/ca/opinion/DisplayDocument.html?content=html&seqNo=31069>
- Kennedy, K. (2015). *Recruiting, training, supporting, and evaluating online teachers: A cross-case analysis of teaching infrastructure across virtual schools*. Lansing, MI: Michigan Virtual Learning Research Institute. Retrieved from http://media.mivu.org/institute/pdf/VSLA_TS_full.pdf
- Kwon, J. B. (2017). *Examining credit recovery experience at a state virtual school*. Lansing, MI: Michigan Virtual University. Retrieved from <http://media.mivu.org/institute/pdf/creditrec.pdf>
- Lin, C-H., Zheng, B., & Freidhoff, J. (2016). *Does class size matter in online K-12 classes?* A brief paper presented at the annual conference of the Society for Information Technology and Teacher Education, Savannah, GA. Retrieved from <https://www.academicexperts.org/conf/site/2016/papers/48251/>
- Lowes, S. & Lin, P. (2017). *Student pathways through online algebra 1 courses*. Lansing, MI: Michigan Virtual University. Retrieved from <http://media.mivu.org/institute/pdf/algebrapath.pdf>
- Michigan Virtual Learning Research Institute. (2016). *2015-16 MVLRI annual report*. Lansing, MI: Michigan Virtual University. Retrieved from http://media.mivu.org/institute/pdf/15-16_MVLRI_Annual_Report.pdf
- Miron, G. (2014). Charters should be expected to serve all kinds of students. *Education Next*, 14(4). Retrieved from <http://educationnext.org/charters-expected-serve-kinds-students/>
- Miron, G. & Gulosino, C. (2016). *Virtual schools report 2016: Directory and performance review*. Boulder, CO: National Education Policy Center. Retrieved from <http://nepc.colorado.edu/publication/virtual-schools-annual-2016>
- Molnar, A. (Ed.); Huerta, L., Shafer, S. R., Barbour, M. K., Miron, G., Gulosino, C. (2015). *Virtual schools in the U.S. 2015: Politics, performance, policy, and research evidence*. Boulder, CO: National Education Policy Center. Retrieved from <http://nepc.colorado.edu/publication/virtual-schools-annual-2015>
- Molnar, A., Miron, G., Gulosino, C., Shank, C., Davidson, C., Barbour, M. K., Huerta, L., Shafer, S. R., Rice, J. K., & Nitkin, D. (2017). *Virtual schools in the U.S. 2017*. Boulder, CO: National Education Policy Center. Retrieved from <http://nepc.colorado.edu/publication/virtual-schoolsannual-2017>
- Molnar, A. (Ed.); Miron, G., Huerta, L., Cuban, L., Horvitz, B., Gulosino, C., Rice, J. K., & 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/publication/virtual-schools-annual-2013>
- Molnar, A. (Ed.); Rice, J. K., Huerta, L., Shafer, S. R., Barbour, M. K., Miron, G., Gulosino, C., Horvitz, B. (2014). *Virtual schools in the U.S. 2014: Politics, performance, policy, and research evidence*. Boulder, CO: National Education Policy Center. Retrieved from <http://nepc.colorado.edu/publication/virtual-schools-annual-2014>

- Natale, C. F., & Cook, J. (2012). Virtual K–12 learning: New learning frontiers for state education agencies. *Peabody Journal of Education*, 87(5), 535-558.
- Ohio Alliance for Public Charter Schools. (2009). *E-schools show superior results: Analysis of state value added data confirms e-schools students' progress*. Columbus, OH: Author. Retrieved from https://web.archive.org/web/20110101075731/http://www.oapcs.org/files/EschoolStudy_final6-24-09.pdf
- Ohio Legislative Committee on Education Oversight. (2005). *The operating costs of Ohio's eCommunity schools*. Columbus, OH: Author.
- Pazhouh, R., Lake, R., & Miller, L. (2015). *The policy framework for online charter schools*. Seattle, WA: Center on Reinventing Public Education. Retrieved from <http://files.eric.ed.gov/fulltext/ED560949.pdf>
- Pazzaglia, A. M., Clements, M., Lavigne, H. J., & Stafford, E. T. (2016). An analysis of student engagement patterns and online course outcomes in Wisconsin (REL 2016–147). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Midwest. Retrieved from <http://files.eric.ed.gov/fulltext/ED566960.pdf>
- Roberts, V. & Stimson, R. (2016). *Professional learning for blended education: Michigan teacher case studies*. Lansing, MI: Michigan Virtual University. Retrieved from <http://media.mivu.org/institute/pdf/plbl.pdf>
- Siegel, J. (2016, September 26). State may force ECOT to pay back 60% of taxpayer funds. *The Columbus Dispatch*. Retrieved from <http://www.dispatch.com/content/stories/local/2016/09/26/state-to-ecot-enrollment-is-60-less-than-you-reported.html>
- Siegel, J., & Candisky, C. (2016, March 1). E-school to repay Ohio for missing students. *The Columbus Dispatch*. Retrieved from <http://www.dispatch.com/content/stories/local/2016/03/01/lax-attendance-tracking-allows-800000-state-overpayment-to-online-charter-school.html>
- Stimson, R. S., Freidhoff, J. R., & Kennedy, K. (2014). *Supporting online learners: Michigan mentor program case studies*. Lansing, MI: Michigan Virtual Learning Research Institute at MVU. Retrieved from <http://media.mivu.org/institute/pdf/MentorProfiles15.pdf>
- Wang, Y., & Decker, J. R. (2014a). Examining digital inequities in Ohio's K-12 virtual schools: Implications for educational leaders and policymakers. *International Journal of Educational Reform*, 23(4), 294-314.
- Wang, Y., & Decker, J.R. (2014b). Can virtual schools thrive in the real world? *TechTrends: Linking Research & Practice to Improve Learning*, 58(6), 57-62.
- Watkins, T. (2005). *Exploring e-learning reforms for Michigan: The new educational (r) evolution*. Detroit, MI: Wayne State University. Retrieved from <http://www.inacol.org/wp-content/uploads/2015/02/the-new-education-revolution.pdf>
- Watson, J., Pape, L., Murin, A., Gemin, B., & Vashaw, L. (2014). *Keeping pace with K-12 digital learning: An annual review of policy and practice*. Durango, CO: Evergreen Education Group. Retrieved from <http://files.eric.ed.gov/fulltext/ED558147.pdf>

- Werth, L., Werth, E., Curtis, H., Kellerer, P., Kellerer, E., Reberry, S., & Walker, N. (2016). *Transforming rural K-12 education through blended learning: Student perspectives*. Lansing, MI: Michigan Virtual University. Retrieved from http://media.mivu.org/institute/pdf/tre_2016.pdf
- Woodworth, J.L., Raymond, M.E., Chirbas, K., Gonzales, M., Negassi, Y., Snow, W., & Van Dongle, C. (2015). *Online charter school study*. Stanford, CA: Center for Research on Education Outcomes. Retrieved from <https://credo.stanford.edu/pdfs/OnlineCharterStudyFinal2015.pdf>
- Zimmer, R., Gill, B., Booker, K., Lavertu, S., Sass, T. R., & Witte, J. (2009). *Charter schools in eight states: Effects on achievement, attainment, integration, and competition*. Santa Monica, CA: Rand Corporation. Retrieved from http://www.rand.org/content/dam/rand/pubs/monographs/2009/RAND_MG869.pdf
- Zweig, J., Stafford, E., Clements, M., and Pazzaglia, A. M. (2015). *Professional experiences of online teachers in Wisconsin: Results from a survey about training and challenges* (REL 2016–110). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Midwest. Retrieved from <http://files.eric.ed.gov/fulltext/ED561235.pdf>

Appendix A

2015-16 Virtual Learning Legislation Summary in Ohio

	Bills	Enacted	Failed	Pending	Bills
2015	1	1	0	0	Ohio H 64 (enacted): Addresses competency-based education but does not specifically cite virtual schools; however, the RFP for the pilot does briefly address online learning as a personalized competency-based option. The bill also briefly addresses funding for students in the competency-based model.
2016	1	0	0	1	OH S 298 (pending): A community school shall not operate using the blended learning model, unless that community school is sponsored by an entity that received an "exemplary" rating for the most recent school year. Not later than August 1, 2016, the department of education shall develop a metric for measuring student performance in schools that operate using the blended learning model.
Total	2	1	0	1	

2015 Wisconsin Virtual Learning Legislation Summary

	Bills	Enacted	Failed	Pending	Bills
2015	1	1	0	0	WI Act 55 (enacted): For purposes of measuring a school district's improvement, the department may not include data derived from a virtual charter school that is considered to be located in the school district if at least 50 percent of the pupils attending the virtual charter school are attending through the open enrollment program.
Total	1	1	0	0	

2015-2016 Virtual Learning Legislation Summary in Idaho

	Bills	Enacted	Failed	Pending	Bills
2015	4	3	1	0	<p>ID H 168 (enacted): Provides legislative intent to maintain broadband services to public schools; appropriates additional moneys in fiscal year 2015 to the superintendent of public instruction.</p> <p>ID H 263 (enacted): Relates to the authority to make payments for additional costs incurred by school from money appropriated, if they became ineligible for E-rate reimbursement as a result of purchasing services on the now void Education Network contract.</p> <p>ID H 270 (failed): Provides for the at-home School Readiness Pilot Program, including programs using online learning to provide a home-based educational technology program for literacy and numeracy instruction under the criteria enumerated in this section. The early education technology provider shall provide computer-assisted instruction for young children over the internet on a home computer.</p> <p>ID S 1186 (enacted): Provides guidance on funds for the Idaho Digital Learning Academy to achieve the following:</p> <ul style="list-style-type: none"> (1) Tuition charged by IDLA to Idaho school districts and charter schools shall not exceed \$75.00 per enrollment. (2) Provide remedial coursework for students failing to achieve proficiency in one or more areas of Idaho's standards-based tests. (3) Pursuant to State Board of Education rule, IDAPA 08.02.03, provide advanced learning opportunities for students. (4) Pursuant to State Board of Education rule, IDAPA 08.02.03, work with institutions of higher education to provide dual credit coursework. <p>The preceding list shall not be construed as excluding other instruction and training that may be provided by the Idaho Digital Learning Academy.</p>

	Bills	Enacted	Failed	Pending	Bills
2016	2	2	0	0	<p>ID S 1333 (enacted): Adds to existing law to provide the Broadband Infrastructure Improvement Grant Fund and related provisions, provides for grants for public schools, the digital learning academy, certain education programs, the school for the deaf and blind, and public libraries.</p> <p>ID H 623 (enacted): Provides for appropriations and expenditures to specified divisions of the Public Schools Educational Support Program for the fiscal year specified, provides for appropriations relating to literacy programs, student assessments, bilingual education, teacher and administrator performance and development, school wireless infrastructure, and certain digital and online curriculum content and availability.</p>
Total	6	5	1	0	

2016 Washington Virtual Learning Legislation Summary

	Bills	Enacted	Failed	Pending	Bills
2016	1	1	0	0	WA S 6273 (enacted): Concerns safe technology use and digital citizenship in public schools; provides a process in which students, parents or guardians, teachers, librarians, other school employees, administrators, and community representatives engage in an ongoing discussion on safe technology use, internet use, digital citizenship, and media literacy as part of implementing the state's basic education goal and essential academic learning requirements for technology. Requires the Office of the Superintendent of Public Instruction to develop best practices and recommendations for instruction in digital citizenship, internet safety, and media literacy, in addition to developing strategies to implement the recommendations statewide.
Total	1	1	0	0	

2016 Virtual Learning Legislation Summary in Michigan

	Bills	Enacted	Failed	Pending	Bills
2016	3	1	0	2	<p>MI S 824 (pending): Requires the Department of Education to establish the minimum requirements for a virtual student to be considered as pupil membership. Also requires the Department of Education to establish standards for hardware, software, and internet access for pupils enrolled in more than two virtual courses in an academic term.</p> <p>MI S 216 (enacted): Provides funding for an extensive professional development program to at least 500 educational personnel, including teachers, school administrators, and school board members, that focuses on the effective integration of digital learning into curricula and instruction. Supports on-going research by the Michigan Virtual Learning Research Institute on best practices for planning, implementing, and evaluating online and blended education delivery models.</p> <p>MI H 5897 (pending): Reduces per pupil allocation for cyber schools by 1/3, compared to brick and mortar schools, beginning in 2015-2016,</p>
Total	3	1	0	2	



MICHIGAN**VIRTUAL**



MICHIGAN VIRTUAL LEARNING
RESEARCH INSTITUTE

3101 Technology BLVD STE G | Lansing, MI 48910 | mvlri.org | 888.532.5806