Online education has been at the center of the national education discussion since the coronavirus pandemic forced schools last year to close and teachers to find ways to teach virtually — often online. While some students thrived learning virtually, educators and parents around the country have said that most did not.

But online learning has been with us for years before the coronavirus pandemic in the form of virtual schools, many of them operated by for-profit organizations. The growth of these schools has been tracked since 2013 by the National Education Policy Center (NEPC), a nonprofit education policy research center located in the School of Education at the University of Colorado at Boulder.

This post, written by Alex Molnar and Faith Boninger, explains the findings of a new report about the state of virtual schools that was released Thursday by the NEPC, titled “Virtual Schools in the U.S. 2021.”

The report finds virtual school enrollment growing despite a persistent lag in student performance as compared with brick-and-mortar schools. It examines the characteristics and performance of full-time, publicly funded K-12 virtual schools and reviews relevant research on virtual school practices.

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(I ordinarily don’t publish footnotes, but I am in this case because the blog is based on a report that includes them and you may find them useful.)
Center, finds that:

- virtual school performance lags behind that of brick-and-mortar schools,
- little or no research evidence supports claims of virtual schools’ ability to educate students as well as brick-and-mortar schools,
- and regulation and policymaking with regard to virtual schools is weak or nonexistent.

Even so, virtual school enrollments continue to grow, the report says.

In 2019-20, 477 full-time virtual schools enrolled 332,379 students and 306 blended schools enrolled 152,530, the report found.

Enrollments in virtual schools increased by approximately 34,600 students from 2017-18 to 2019-20, and enrollments in blended learning schools increased by approximately 19,500 during this same time period.

But virtual schools enrolled fewer minority students and substantially fewer low-income students compared to overall national public school enrollment, the report says.

Virtual schools operated by for-profit education management organizations (EMO), were close to 3.5 times as large as other virtual schools, enrolling an average of 1,384 students. In contrast, those operated by nonprofit EMOs enrolled an average of 395 students, and independent virtual schools (not affiliated with an EMO) enrolled an average of 407 students.

With high student-teacher ratios and little or no need to pay for facilities, transportation, breakfast and lunch programs, and other operating costs, for-profit virtual schools realize substantial cost savings compared to brick and mortar schools, and therefore are able to profit from current school funding formulas.

This profit fails to reflect the educational quality virtual schools provide their students, as measured by state school performance ratings and graduation rates.

Among full-time virtual schools, far more district-operated schools achieved acceptable state school performance ratings (50.7 percent acceptable) than did charter-operated schools (35.2 percent acceptable). Of the schools operated by EMOs, 64.3 percent of schools operated by nonprofit EMOs and 37.2 percent of schools operated by for-profit EMOs received acceptable ratings.

In the middle, 44.1 percent of independent schools received acceptable ratings. Among blended learning schools, the highest performance was seen by charter schools (50.7 percent acceptable) and lowest performance by the subgroup of schools operated by for-profit EMOs (19.4 percent acceptable).

In the middle were district-operated blended-learning schools (37.8 percent acceptable). Compared to the overall average national graduation rate of 85 percent, the graduation rates of 54.6 percent in full-time virtual schools and 64.3 percent in blended schools fell far short. District-operated schools reported
higher graduation rates than charter schools for both virtual (+9.6 percentage points) and blended (+3.5 percentage points) schools.

Students in both virtual and blended schools generally underperform their brick-and-mortar counterparts. Researchers have not yet established a credible base of useful strategies for practitioners and policymakers, a gap that became starkly apparent in March 2020 when education leaders working to immediately implement virtual instruction found both schools and practitioners unprepared for an online environment.

It is perhaps unsurprising, then, that NEPC researchers found little evidence of research informing state legislative action on virtual schools in 2019-20. Policymaking was largely absent in the crucial areas of virtual school finance and governance, instructional quality, and teacher quality.

In 2019, of the 58 bills considered in 23 states, 17 were enacted while 41 failed. In 2020, of the 59 bills considered in 23 states, 9 were enacted, 42 failed and 8 are pending. In total, fewer than 25 percent of proposed bills were enacted in 2019 and 2020.

Fifty-one bills in 2020 responded to the covid-19 pandemic (18 were enacted, 18 failed, and 15 are still pending). These pandemic-related bills rarely offered state-level guidance to school districts. Instead, they mandated, in broad strokes, the use of virtual schooling in the 2020-21 school year.

The pandemic exacerbated the trend that NEPC virtual schools’ reports have documented since 2013. The enrollment and performance numbers above make clear that while virtual schools continue to rapidly expand, little evidence of student progress justifies their expansion, and policymaking at the state level remains inadequate to the task of ensuring the quality of education that virtual school students receive. This pattern is especially the case with respect to for-profit virtual schools.

As reflected in the number of pandemic-related bills mandating virtual schooling in 2020, the pandemic has pushed virtual schooling to the forefront of the national educational landscape.

Vendor corporations, tech industry trade associations, philanthropists, and venture capitalists — all of whom have been promoting virtual education for over a decade[1] — quickly positioned digital programs and platforms as the obvious solution for schools that had to close buildings to avoid transmitting the virus.[2]

Some digital technologies did, in fact, help educators connect with their students during the crisis. But the nation’s experience with virtual technologies during the pandemic also revealed fundamental limitations of these approaches and spotlighted serious problems with the rosy vision proponents offer of a bright new virtual future. Hackers disrupted district connections,[3] held student personal data for ransom,[4] and “zoom bombed” classes.[5]

Teachers, students, and parents struggled — with mixed success — to adjust to virtual education technologies. Parents found that they often lacked the time, resources, and knowledge required to take
over the roles of teacher, principal, and tech support. Many students and parents were sidelined altogether because they lack access to broadband, computers, and other digital necessities.

For some students and schools, the pandemic-era turn to new technologies included substantial positives that they plan to build upon in the future. But for long-standing advocates of these technologies, many of whom stand to benefit financially from a future dominated by virtual schooling, such isolated movement is not sufficient.

Well-funded and aggressive advocacy efforts portray full-time virtual and blended learning scenarios not only as schools’ go-to response to the pandemic, but also as a leap forward into a post-crisis “new normal” for the core education infrastructure in a radically altered school environment.

In this vision, virtual schools beneficially expand student choices while improving the efficiency of public education, with online curriculum adapting to individual students’ needs more effectively than curriculum in traditional classrooms.

The evidence reported in Virtual Schools in the U.S. 2021 tells a different story. Most importantly, it does not support claims that virtual education produces better student outcomes, as compared to conventional face-to-face approaches to teaching and learning in brick-and-mortar schools. Full-time virtual schools, in particular, continue to yield very poor outcomes.

This evidence is consistent with other research that finds that the use of digital platforms and learning programs is tied to significant threats to the integrity of schools’ curriculum and instruction programs, their student assessments, and their data collection and record-keeping practices.

Compared to the surface transparency of traditional textbooks, tests, and record books, much is hidden behind the proprietary curtain of virtual technologies. “Virtual Schools in the U.S. 2021” suggests that at least much of what is hidden is nothing good.

NEPC researchers’ policy recommendations include:

- Requiring federal and state education agencies to accurately identify and monitor full-time virtual and blended schools, remedying gaps in information on their performance;
- Using performance data to inform funding decisions;
- Funding research on virtual and blended learning programs and classroom innovations within traditional public schools and districts;
- Creating goals for a comprehensive research program designed to help develop policy for, and improve practice in, virtual and blended schools;
- Creating new independent entities, or supporting existing ones, charged with undertaking long-term research programs to evaluate virtual and blended schools;
• Developing new funding formulas based on the actual costs of operating virtual schools;
• Developing guidelines and governance mechanisms to ensure that virtual schools do not prioritize profit over student performance;
• Requiring high-quality curricula, aligned with applicable state and district standards, and monitor changes to digital content;
• Defining certification training and relevant teacher licensure requirements specific to teaching responsibilities in virtual schools, and require research-based professional development to promote effective online teaching; and
• Identifying and maintaining data on teachers and instructional staff that will allow education leaders and policymakers to monitor staffing patterns and assess the quality and professional development needs of teachers in virtual schools.

Notes and References

[1] From June 2016 through December 2018, Audrey Watters posted a series of blog posts on the education technology industry and its connection to venture capital. Find those posts here:


See also:

HolonIQ (2020). EdTech started the decade with $500m of Venture Capital investments in 2010 and finished 14x higher at $7B in 2019. We expect over $87bn to be invested over the next 10 years, almost triple the prior decade [webpage]. Retrieved April 19, 2020, from https://www.holoniq.com/notes/87bn-of-global-edtech-funding-predicted-to-2030/


For analysis, see:


See also, for example:


[12] The National Education Policy Center has produced research reports on the performance of virtual schools since 2013. They are all available at https://nepc.colorado.edu/publications/research-briefs
