Online and On Course
Digital learning creates a path for at-risk students

By Julie Young and William Donovan
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Executive Summary

The chronic problem of high drop-out rates among minority students and students from low-income families has been a blight on the nation’s education system and society for generations. But advances in technology provide a genuine possibility to reduce those rates. Digital learning, the use of computers and the internet to study courses taught in the classroom, is viewed by many educators as a breakthrough to helping those at-risk students stay in school and earn their diplomas.

The flexibility afforded by digital learning, with students working on their own time at their own pace, is a way for students to meet the requirements of their courses while handling pressing responsibilities outside of school, problems at home or personal issues.

Well-designed digital programs include checkpoints for assignments, teachers or counselors to monitor a student’s progress and a team to assist the student when issues arise that impede their progress. Together, these kinds of measures provide the guidelines and support it takes for an at-risk student to succeed.

Yet parents should scrutinize digital programs closely. Their quality and effectiveness vary widely. Students are poorly served by point-and-click assessments with no engagement, virtual schools with videos instead of real teachers and programs without pacing and scheduling support.

The lack of laptops, tablets and internet access is still an issue in many rural areas and for low-income families. One report revealed that 16.9 million children age 17 years or younger lack high-speed home internet, and 3.6 million households are without a computer. But states have invested in expanding broadband access and the recently passed federal infrastructure bill includes money dedicated to expanding connectivity in minority communities and regions beyond population centers.

Background

Since the No Child Left Behind Act of 2001, closing student achievement gaps has been a priority of many educators and education policy makers. Standardized tests have consistently shown that poor and minority students are lagging behind their white and Asian counterparts in learning. Low family income, individual struggles such as drug addiction or teenage pregnancy, inadequate public investment in majority-minority schools and the need for more Black and Hispanic teachers are just a few of the reasons often cited for the disparity.

Numerous studies have held that the COVID-19 pandemic and closure of schools in March of 2020 in the U.S., is exacerbating that gap. Many minority and low-income families lacked the technology or internet access to attend classes from home. Yet studies also revealed that remote learning was more popular among Blacks and Hispanics than white families. In one survey 59 percent of Black and 58 percent of Hispanic families preferred fully remote school compared to only 34 percent of white families.

As the pandemic shutdown has prompted a greater look at alternatives to the classroom, it has also led to a new look at how digital learning can be used to improve educational outcomes among at-risk students. In fact, the flexibility that online learning affords, when accompanied by a willingness among educators to take a non-traditional approach, creates possibilities to address many of the problems that lead to students failing at school and dropping out.

Digital learning isn’t for everyone and a bad online course is no better than a bad classroom course. But a well-designed program that includes quality curriculum and instruction, “pacing” guidelines, experienced online teachers and mentors or support teams, personalized, project-based learning and peer collaboration, can turn a struggling student around.

This paper draws on author Julie Young’s more than 25 years of work in virtual learning, including the founding of Florida Virtual School and her role as managing director of ASU Prep Academy and ASU Prep Digital. We also drew from interviews with professionals in online learning and research into articles and studies on the topics of at-risk students and digital learning. We present ideas and examples of how teachers and policymakers across the country are using virtual learning to improve educational outcomes for at-risk students.

At-risk students and the achievement gap

When used in an educational context, “at-risk” is a broad term that can cover a number of circumstances. In short it applies to students who have a higher probability of failing and are more likely to drop out of school than other students. Their challenges aren’t usually related to their ability to learn but to the societal and economic structures impacting their lives. They might care for a child or they’re avoiding a dangerous gang or they work a job to support their family, instead of going to school.

More broadly, students in danger of failing are minority students and those from low-income backgrounds more often than caucasian students or those of affluence. In nearly 50 percent of the 100 largest cities in the U.S., most Black and Latino students attend schools where at least 75 percent of all students qualify as poor or low-income under federal guidelines, according to the National Equity Atlas. The Atlas is a joint project of PolicyLink and the University of California’s Program for Environmental and Regional Equity. The project report states that concentrated poverty is tightly correlated with gaps in educational achievement.

In 2020 a Stanford University study found that there was a difference of about two years of schooling between white
and Black students, based upon standardized test scores. The gap between white and Hispanic students was almost as large. The pandemic has exacerbated that gap. A report released in July by NWEA, a non-profit research organization that studies education issues, revealed that at the end of the 2020–2021 school year, students in grades three through eight were three to six percentile points behind in reading and eight to 12 points behind in math compared to similar students in the same grades prior to the shutdown. Black, Latino, and Native American students saw steeper declines than white and Asian students. Students in high-poverty schools also saw bigger drops than those in more affluent schools.5

According to the study, the average fifth grade student at an affluent school would normally be at the 71st percentile in math, but that average fell to the 64th percentile, a seven-point dip. Students at low-income schools, however, dropped 11 points, from 35th to 24th percentile.6

Another analysis, by McKinsey & Co., reported that after the pandemic shutdown, K–12 students were on average five months behind in mathematics and four months behind in reading by the end of the school year. But historically disadvantaged students fared worse. In math, students in majority Black schools ended the year with six months of unfinished learning and students in low-income schools with seven. High school students were more likely to drop out of school, and high school seniors from low-income families were less likely to go on to postsecondary education.7

Many of these students struggled when their schools closed because they did not have access to the internet. They lacked essentials such as tablets or laptops or broadband access. Nationally, children living in about one-third of Black, Latino and American Indian/Alaska Native households during the pandemic were unable to connect to an online class or retrieve assignments through a home internet connection.8

Put in straight dollar terms, four in 10 families that earn less than $25,000 annually do not have high-speed home internet access, and three in 10 do not have a computer. Similarly, among households that earn between $25,000 and $50,000 annually, one-third lack high-speed home internet service and nearly one-fifth do not have a computer.9

These facts are tragic considering the rapid growth of digital learning in education today. Virtual schools, in which students access learning programs designed to be taught online, exist in all 50 states. These schools design their curriculum and programming specifically for the online environment. In Massachusetts there are two tuition-free virtual schools that serve grades K–12 throughout the state: Greater Commonwealth Virtual School and TEC Connections Academy Virtual School.

Public K–12 schools are incorporating “blended” or “hybrid” learning into the classroom by expanding access online. Today’s young students, cell-phone-carrying “digital natives,” are at ease with downloading information from the internet, blogging, swapping files and uploading pictures, so they naturally take to learning online. They’re benefiting from the customization and personalization that online learning can provide and the chance to recover credits they lost after missing classes or failing tests.

Efforts are being made to expand access to poor and minority families. The Biden administration’s $1 trillion infrastructure spending package includes $65 billion for broadband access to improve internet services for rural areas, low-income families and tribal communities. Most of the money would be made available through grants to states.

If deployed effectively, that would be money well spent. Nationally, Latino households make up 20.9 percent of all households with children but represent 28.7 percent of households without high-speed home internet access. Similarly, Black households make up 14.4 percent of all households with children, but represent 19.5 percent of households without high-speed home internet access.10

How digital learning can improve educational outcomes

The remote learning that occurred after schools were hastily closed in 2020, was frequently criticized by parents and students. It also bore little resemblance to well-designed online programming and courseware. Consequently, months before the 2021–2022 school year began, many politicians pulled the plug on online learning in their schools. In May, New York City Mayor Bill De Blasio, who oversees the nation’s largest school system, said virtual schooling would no longer be provided except for snow days and “unforeseen events.” New Jersey Governor Phil Murphy said remote learning would only be used for coronavirus outbreaks or emergencies. Their views were countered by those of Daniel Domenech, executive director of the national School Superintendents Association, who said that the “notion that learning can only take place when a kid is in school” was wrong.11

The primary advantage that digital learning can provide is freeing students from the mindset that learning can only occur during set hours in a specific place — or as many professionals say, a system in which time is fixed and learning is variable. Online learning flips that system and makes time variable and learning fixed.

“Often, part of the attraction to virtual programs for at-risk students is that they don’t fit the traditional mode that may not have worked well for them,” says Thomas Murray, director of innovation with All4Ed, a nonprofit organization focused on expanding equitable educational opportunities for students of color and students from low-income families, based in Washington, D.C. “The opportunity to do things at different times in the day, to have a more flexible pace or path,
is really important. Students can often move at their own pace in well-designed courses.”

To succeed, Murray says a successful digital program needs established “pacing” guidelines, which set specific points in time when a student should have completed an assignment.

“If a student spends a lot of time in math on Monday and Tuesday and works through their assignment, hands things in, shows proficiency and gets to where they need to be, they don't have to log in on Wednesday and Thursday because they're where they need to be in that program,” says Murray.

Some educators argue that a school that allows its students to work on a flexible schedule actually creates more of a challenge for teachers because students aren't advancing at the same pace. Instead teachers are juggling students who are progressing unevenly. Many schools that have converted to a digital curriculum are still keeping students in the same speed all the time, where they do things exactly as in a classroom. The result is students waiting on other students, thus duplicating the same tension and anxiety as in traditional textbook-based classrooms.

“Redesign” is the word

The answer is to redesign school programs around the students' needs as opposed to augmenting our traditional program. Reinvent instead of retrofit. Designing around the needs of students creates the opportunity for change. Do we have a 55-minute class period, or do we have a 90-minute or a 75-minute period of time? Do we allow students to work on different subjects at the same time? Do we have some kids working in small groups and others working on the computer? Could we have students coming and going from campus at different times, much like a college campus, to meet specific student needs and learning objectives?

Fundamental to a redesign would be the use of a digital curriculum, including multimedia and video. Some students can move faster and others need more time. Instructional practices should be redesigned to acknowledge that our students are individually and academically unique. Struggling students can also watch prerecorded or captured lessons multiple times at home with a parent in a less intense situation than the classroom and minus the peer pressure that comes with both circumstances.

The flexibility of variable time in learning is also effective in filling the holes in what Heather Staker, an education author and researcher with the Christensen Institute in San Francisco, calls the “Swiss cheese” problem.

“What happens in a conventional setting is that a student will go through third grade math and understand 74 percent of it,” says Staker. “So that means that 26 percent of the concept of that math they did not attain. Now they move on to fourth grade math and suppose they get 82 percent. That means that 18 percent of the concepts in fourth grade math they did not attain. Over time that accrues and you have this Swiss cheese problem where key concepts in that student’s life are now not mastered. This is the problem with having a system in which time is fixed and learning is variable.”

Staker believes that a dedicated mentor in a full-time role, not just at-risk students, has a Learning Success Coach. By re-watching videos and filling in the Swiss cheese holes, students can reach out and act as a safety net. Swift action prevents a massive gap from developing while the student’s struggles go unnoticed.

The at-risk safety net

The personal issues at-risk students face cause them to fall behind and even stop doing their work entirely. When that happens, there needs to be a person or persons in place who can reach out and act as a safety net. Swift action prevents a massive gap from developing while the student’s struggles go unnoticed.

The established pacing guidelines can serve as a trigger to alert teachers to potential points of struggle and is one strand of a safety support net. The first touchpoint person in the safety net team is the teacher. Teachers should proactively reach out to the student, parents, academic advisors or anyone else who is necessary if they see that the student is not logged in or if they’re not where the pacing guideline says they should be.

An academic mentor who also oversees online learning for a school program or a specific grade level should also be part of a safety team for an at-risk student. ASU Prep Digital created a “Learning Success Coach,” whose major function is to help students to grow ownership and agency in their own learning journeys. They have the skills and experience to work as a college-going counselor but they also drill in on students’ social/emotional skill sets, and the “teenage drama and trauma” that is common at that age. They teach students and parents how to navigate an online environment. If a student falls behind, the LSC is the interventionist for the family. A high school or middle school student might have six teachers, but they have one Learning Success Coach. That person operates outside of the academics in individual courses but pulls everything else together as a single point of contact for the family. Every student, not just at-risk students, has a Learning Success Coach at ASU Prep Digital.

Staker believes that a dedicated mentor in a full-time
online program, whose job is to ensure that an at-risk student graduates from school, can have a life-changing impact on a young person.

“So often when we think of online learning we imagine taking the human out,” says Staker. “But in some of the better programs, the access to humanity increases for that student because there’s a dedicated person who is meeting with them one-on-one to walk them through.”

One factor often causing disfunction and putting children at risk is a splintered family life. The student may be lacking the adult guidance that helps get them through school, but if an online program is structured to include an adult mentor it can drastically eliminate that problem.

“I would argue you’re 97 percent of the way there,” says Staker, when considering the added support afforded by a mentor.

The other critical group helping keep students within the safety net is parents. Online learning allows for students to be at home on flexible time, but there should be a suitable space for the student to work. Often, it’s a bedroom or the kitchen table, which may not be ideal. Murray, who was a teacher and a principal of a virtual school in Pennsylvania 12 years ago when they were still called “cyber-schools,” says he and his staff would hold training sessions for parents on how to set up places in their home to be a mini-classroom.

Today the connection with parents has improved using technology such as Zoom video conferencing for vital links such as teacher-parent conferences. In years past, many parents weren't attending because of work conflicts.

“What we’ve heard overwhelmingly is that when you give parents the virtual option, maybe they can step away for 15 minutes at work, when before taking off for half a day wasn’t financially feasible,” says Murray. “So instead of not showing up, now at least they have a different way to connect. Using digital tools to increase opportunities for connections with parents has been a huge help.”

“Learning recovery”

Digital learning can be ideal for students who would function better away from the classroom, but the flexibility afforded by changing the time and place dynamics can help students in physical schools who struggle in courses or have missed classes. Online they can make up credits to meet graduation requirements or deadlines. Students who’ve dropped out of school can work towards their degree on their own time.

While it is true that there is considerable research critical of “credit recovery,” ASU Prep Digital is working to change the paradigm from credit recovery to “learning recovery.” The point is to ensure that the student is actually learning what was missed as opposed to just making sure they get the credit. It’s a fine line, but it’s a very impactful way to think differently. Program leaders asked some basic questions: Simply because a student shows up and sits in a classroom for so many minutes a day, are they actually learning? Just because the student figured out a way to get the credit in a credit recovery environment, are they actually mastering the material and the standards needed to go to the next level or are they simply passing the class?

If one thinks about the learning gap or learning loss scenario that exists today, we call it “unfinished learning” because we feel like students are all in different places. What we're doing now is applying different programs and different instructional practices to accelerate students from where they are on they're learning trajectory to the next step.

This approach has consequences for the school calendar. At Florida Virtual School we believed that just because a student had not successfully completed a course by May 31st, they didn't need to fail; they just weren't finished. So we designed a system where they could continue working toward mastery and completion without being tethered to the calendar. We would do everything we could to get them to mastery by September, when they were ready to start a new school year, but if not, we continued to work with them to completion.

Summary

The deep-rooted problem of students whose lives outside of school place them at risk of failing, has been around since schoolmams rang hand bells to start the day. It will persist as long as there are social realities to interfere with their ability to learn. But through the years there have been changes in society and innovations in education to increase their opportunities.

Most recently, breakthrough technology has changed the playing field for those students in school. Digital learning has given the teenage mom the ability to care for her child without dropping out of school. Online courses that can be studied in non-traditional school hours now enable a teenager who works in the day to help his family to continue his education in the evening or weekends. An elementary school student afraid to attend school because of the violence in the building can log on at home and study in safety.

Digital learning is not intended to be a replacement for children in a classroom, face-to-face with a teacher and socializing with other students. As noted, the chaotic educational experience for many, spurred by the pandemic, prompted many politicians, such as the mayor of New York City and the governor of New Jersey, to insist that students return to their classrooms this school year, except for unique situations.

Increasingly, however, policy makers and education advocates are stating that many reasons why students are at-risk aren't so unique. The fact that the dropout rate is higher among minority and low-income students shows there is a problem across wide swaths of the population. Digital learning is often seen as a positive among those groups. Since students were sent home from schools in March of 2020 and as they've returned,
Black, Hispanic and Asian students have remained in virtual learning in much greater percentages than white students.14

When Florida Virtual School was started 25 years ago, we had three modes within the public system: the traditional way, homeschooling and virtual learning. Now we find ourselves in the COVID era, in which families choose not to send their students back to school and they are looking for more options. At ASU Prep, new models of success have been created, including hybrid formats, learning pods and micro-schools, so that families of all students, including those who are at-risk, won't have to go elsewhere to find a solution that works for their family.

The demand for new options demonstrates how education needs to change to keep up with the times and the communities that are served. This is a time and opportunity to create new models for success. The challenge is to incorporate new learning options into our public school system and for educators and policy makers to work together in critical areas such as funding for these programs.

By flipping the traditional system in which time is fixed and learning is variable, online learning can create new opportunities for those who once would have fallen behind in school and eventually fallen out. Instead they can continue their education, earn their diplomas and move forward to a brighter future.

**Recommendations**

**Districts need to change with the times.** The demand for new options demonstrates how education needs to change to keep up with the times and with the communities we serve. COVID has created an opportunity for new models for success. The challenge is to incorporate them into our public school system and for educators and policy makers to work together in critical areas such as funding for these programs. Florida Virtual School and ASU Prep Digital have created several forward-thinking school designs.

- **A created hybrid model.** Students come to school twice a week, they attend virtually from home twice a week and then Friday is a wildcard, depending on what's going on with a particular student, or the whether teacher is going to do some project-based learning that day with all students onsite, or conduct a field trip or a tutoring makeup day. A small pilot was installed in 2021 and it will be expanded in 2022.

- **FLVS and ASUDP are assisting with learning pods.** Both schools are working with digital families to help them set up learning pods in their communities. The families will be responsible for most of the implementation, but educators from FLVS and ASUDP will help design and coordinate the pod and will be teaching the students. FLVS has been supporting homeschool families for 25 years. We are formalizing the learning pod model to support families who want a home-based learning environment but may still need to work.

- **Setting up micro-schools.** FLVS and ASUPD are working with some schools that want to set up micro-schools within their schools to provide a different experience for students who are already part of the school or to attract other students who would like that sort of experience. The micro-school would be digitally supported.

**Districts should incorporate digital learning into their strategic plan.** As districts develop their strategic plans, they should prepare their schools, teachers, families, and students to capitalize on the affordances available through digital learning. Call it an “action plan” that may be used when students who are at risk are identified.

“You need a solid plan,” says John Flores, former executive director of the United States Distance Learning Association and a Ph.D. in education technology. “The plan needs to include trained teachers with the skills to teach online. You need a help system that's available for teachers and parents seven days a week, twenty-four hours a day. You need to have someone at home to help the kids. If that support isn't there for them, then there needs to be community areas such as libraries or boys and girls' clubs.”

**Train teachers to teach in the online environment.** Teaching online is different from teaching in a classroom. Courses designed for virtual schools or blended learning are designed for the online environment. Students respond to an active and engaged teacher who has mastered the specifics. It's critical that schools hire skilled teachers, then provide professional development to continue their growth. Additional real-time technical assistance is also critical so that technical support doesn’t fall on teachers’ shoulders.

**Use money from the American Rescue Plan Act to support digital learning.** The $1.9 trillion coronavirus rescue package approved by Congress and signed by President Biden, was designed to help the country recover from the pandemic shutdown. States have been given the flexibility to spend the money where needed, though part of the package is centered on learning loss. School districts could use ARP money to develop their digital program to help students progress academically. One caution, the ARP program ends in three years. Districts need to plan on investing in their digital education to sustain it beyond that time.
Endnotes

1 “16.9 million children remain logged out because they don’t have internet at home,” All4Ed, https://futureready.org/homework-gap/

2 “More non-white than white parents prefer remote learning for their children,” The Economist, March 14, 2021, https://www.economist.com/united-states/2021/03/14/more-non-white-than-white-parents-prefer-remote-learning-for-their-children


9 Ibid

10 Ibid


12 Telephone interview with Thomas Murray, Nov. 10, 2021.

13 Telephone interview with Heather Staker, Nov. 2, 2021


15 Telephone interview with John Flores, Nov. 4, 2021
About the Authors

Julie Young is ASU Vice President of Education Outreach and Student Services and Managing Director of ASU Prep Academy and ASU Prep Digital. She is a visionary CEO, educator, and entrepreneur passionate about leveraging technology and building innovative school models that put students at the center of every decision. Under Julie’s leadership over the last four years, ASU Preparatory Academy has grown exponentially in both enrollment and global impact, currently serving more than 7,500 full-time K–12 students and over 400,000 student enrollments in school partnerships around the U.S. This unique program offers students an accelerated path toward college admission and careers of the future with the chance to earn concurrent high school and university credit, shortening time and cost to degree. Julie was the founding President and CEO of Florida Virtual School (FLVS®), the world’s first virtual statewide school district that began as a small grant initiative and grew to become the largest public K-12 program in the U.S., serving more than 2 million students in 50 states and 68 countries.

William Donovan is a former staff writer with The Providence Journal in Rhode Island where he wrote about business and government. He has taught business journalism in the graduate programs at Boston University and Northeastern University. He received his undergraduate degree from Boston College and his master’s degree in journalism from American University in Washington, D.C.

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