

The Learner Revolution

AND WHAT IT MEANS FOR HIGHER EDUCATION

Part One of Three



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Key Findings

The networked world has fundamentally changed how we teach and learn.

Knowledge is growing rapidly each year, and we're struggling to keep up in how we communicate, process information, think.

This new era has ushered in a Learner Revolution, where traditional and nontraditional students want to have more control over how, when, and where they learn.

Rather than simply using technology, the digital age we live in enables everything that universities do.

Traditional universities can and will continue to play a critical role in this new era as long as they are willing to adapt.

The foundation of the university built for the Learner Revolution is an amalgamation of pathways that give students of all ages choice.

Four primary pathways will guide learners in the decades ahead: online, hybrid, immersive, and classroom.

To succeed in the Learner Revolution, colleges need to harness data on student learning, segment their learners based on needs, and create more innovative cultures.



Introduction

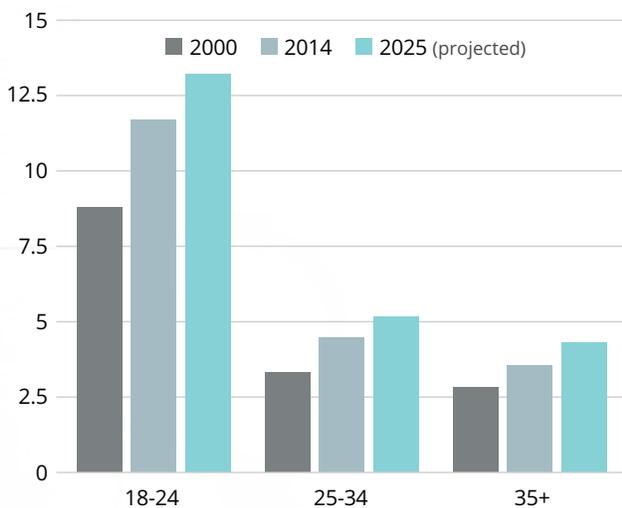
The long-held popular image of “college” in the United States has been that of young undergraduates roaming tree-shaded quads between their classes in ivy-covered neo-Gothic buildings and living in cramped dorm rooms.

But that description has been undergoing a makeover in the last decade, thanks to shifting demographics and a growing demand for jobs that require a college degree. The stereotypical student straight out of high school is already being replaced by the working adult. Nearly 40 percent of college students are 25 and older, and one-third attend part-time (see Figure 1).¹

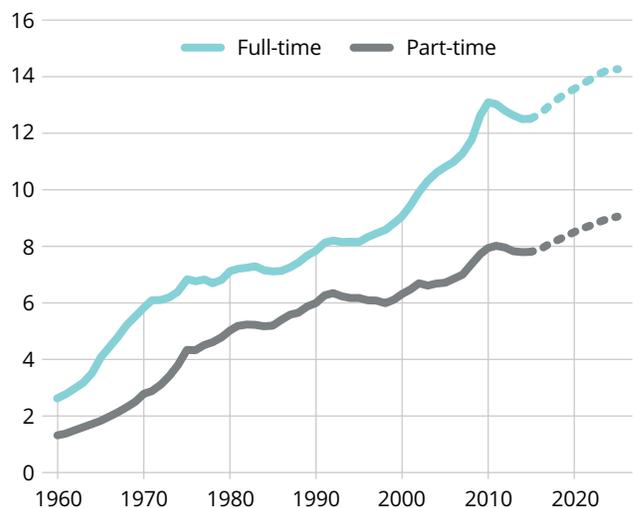
FIGURE 1:

The Nontraditional Student Becoming More Traditional

Actual and projected enrollment by selected age ranges, in millions



Total fall enrollment in degree-granting postsecondary institutions, by attendance status, in millions



Sources: Department of Education, National Center for Education Statistics

Note: 2015 - 2025 are projections

Now, how students of all ages learn is also being transformed. In the last five years, a combination of new technology and the growing recognition of learning science to inform pedagogy have forced colleges to rethink their approach to campus-based courses, online learning, and what ultimately defines student success. Lectures are out and “flipped classrooms” are in. Faculty members are collecting data on students in real time to see what’s working and what isn’t in their courses. And more institutions are investing resources in teaching centers and starting online degree programs as student demand for virtual learning continues to grow.

Not since Gutenberg’s invention of the printing press in the mid-fifteenth century have we seen the scale of disruption that we’re experiencing right now in higher education. “The Internet has put information at our fingertips,” said Cathy Davidson, author of *The New Education: How to Revolutionize the University to Prepare Students for a World in Flux* and director of the Futures Initiative at the City University of New York. “Students never had just one learning style, but schools and universities always taught that way because it was easy and scalable. Technology and online education offers an opportunity to give students more choice.”²

The networked world has fundamentally changed how we teach and how we learn. Knowledge is no longer a commodity delivered solely from teacher to student, but something that emerges from the learners’ own exploration—whether that’s in an online discussion with other students, in a classroom debate with a professor, or a mix of both.

Welcome to the Learner Revolution, where traditional and nontraditional students have more control over how, when, and where they learn. No longer is the prevailing mentality of college “sink or swim.” Retention, graduation, and student success are now a shared responsibility between learners and institutions.

Vistasp Karbhari, the president of the University of Texas at Arlington, describes this era as one where the learner rather than the institution is at the core. This is a big cultural shift for many institutions where the student is often a forgotten user.

“Our objective is how do we make learning more accessible, reduce costs, serve a more diverse set of learners, and improve outcomes,” Karbhari said. “In all, we need to deliver more high-quality education to more people.”

Such a goal comes at a critical time for higher education. More jobs than ever before require a credential after high school, but the supply is lagging demand by 1 percentage point every year, compounding the skills-gap problem facing the United States. The solution is for higher education to serve more students by deploying technology to scale their operations, revising admissions standards built on exclusivity, and creating new credentials to recognize different types of learning. In the papers that will follow in this three-part series, we will look more closely at how colleges and universities must adapt to serve the growing market of lifelong learners. We will see that providing different pathways through higher education and signals for students to showcase their learning to the rest of the world are essential.

The Swirl of Knowledge

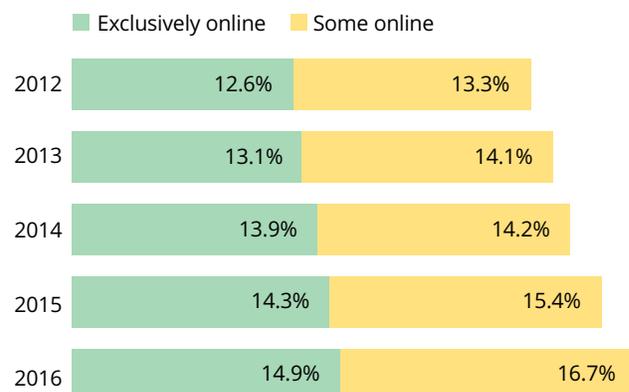
In previous generations, knowledge developed so slowly that we could last in a job or career for a lifetime with one set of schooling. But today, knowledge is growing rapidly by the year and as workers, let alone humans, we’re struggling to keep up in how we communicate, process information, and think. That’s why nine out of 10 workers believe it will be essential for them to get training and develop new skills throughout their work life to stay current in the workplace, according to the Pew Research Center.

This swirl of knowledge will also require a shift in how we learn.

FIGURE 2:

More Students Turning to Online Education

Almost a third of students took at least one online course in 2016.



Source: Babson Survey Research Group, “Grade Increase: Tracking Distance Education in the United States,” 2018

Drivers of Change for the Learner Revolution

The learner revolution is driven by several forces simultaneously converging on colleges and universities, including:

Digital resources

Open Education Resources are replacing textbooks. YouTube is supplanting tutors and advisors. And online education is now a legitimate alternative to traditional face-to-face education. While overall enrollment in higher education is declining, the number of online students continues to climb. More than 6.3 million students took at least one online class in 2016. That represents 32 percent of all students in higher education, up from 26 percent in 2012, according to an annual analysis of federal data by the Babson Survey Research Group (see Figure 2).

Learning science

The hype over Massive Open Online Courses (MOOCs) earlier this decade had one positive byproduct: it got faculty members interested in the science of learning and how to improve the educational experience, whether through online methods, in-person, or a combination of both. Now, about half of faculty members surveyed by the Educause Center for Analysis and Research believe that online learning leads to pedagogical breakthroughs.

Financial models

The revenue picture for both public and private universities alike is challenging, even in a healthy economy. As states continue to trim their funding per student, revenue has declined for the last two years at public campuses and trails expense growth, according to Moody's Investors Services. A quarter of private colleges are running deficits as tuition discounts have hit a record 49.9 percent in the sector. Meanwhile, student debt keeps rising to pay for it all, especially at the graduate level (see Figure 3).

Demographics

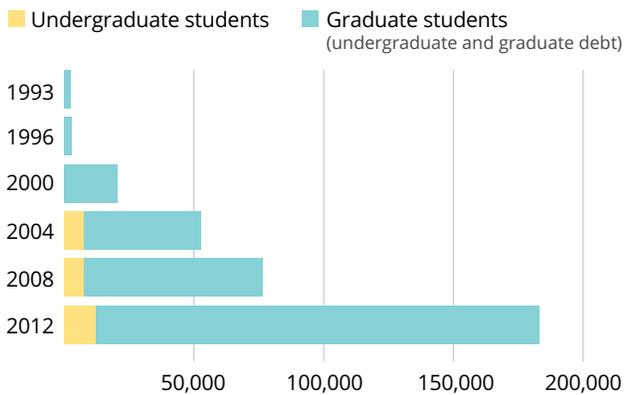
The traditional pool of college students straight out of high school is expected to remain relatively flat for the next several years, before dropping by 9 percent in the latter part of the next decade. This cohort of students, Gen Z, will arrive on campus with different expectations and backgrounds than those of previous generations. In addition, colleges are also looking for new sources of potential students. One big pool are the 95 million American adults who lack a bachelor's degree or a college degree altogether.

FIGURE 3:

Among Borrowers, Graduate Debt is Growing

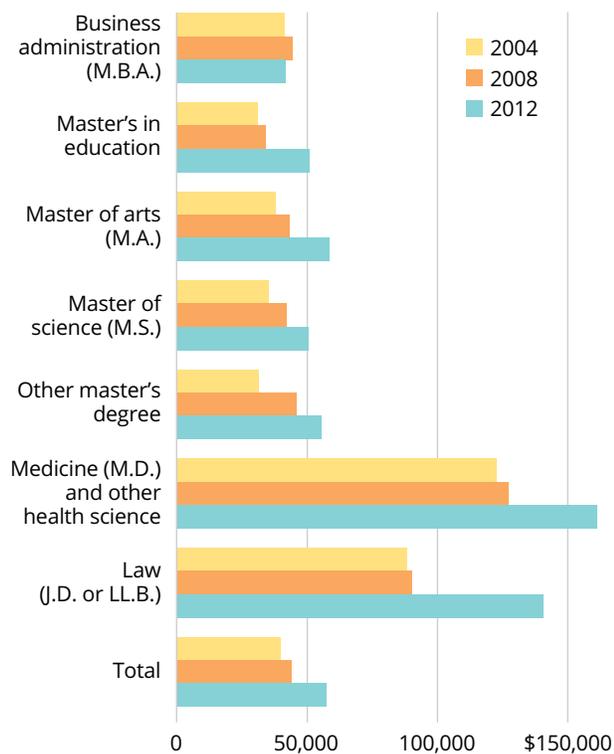
Graduate borrowers account for 40 percent of all student debt, though they represent just 14 percent of students in higher education overall.

Number of students graduating with six-figure student-loan debt*



Source: Edvisors.com * years indicate the end of the school year

Average debt load upon graduation for students who borrowed, by type of graduate degree**



Source: New America Foundation ** all figures are in 2012 dollars and reflect undergraduate and graduate debt

Right now, we tend to think of school as something that happens to young people (typically from the age of 5 to 24) through a linear process (eight months of the year from September until May) and in a specific physical place (a building or campus). That model is already fraying, with a greater diversity of students approaching learning as a menu of options. For them, there is no artificial barrier—a classroom, for instance—that divides learning from everything else that they do. This perspective allows learners to easily mix-and-match online courses with digital materials they use for face-to-face classes, and add in a dose of hands-on experiential learning through internships and jobs.

The idea that learning is always on extends into the home and workplace. Personal digital devices, such as Alexa, give us access to knowledge with nothing more than a voice command. Ovum, a market research company, has predicted that by the year 2021, there will be more Alexa-like digital assistants on the planet than humans.³ Every December when Google lists the top searches of the year, the top ones always begin with “How to. ...” Last year, more than 100 million hours of how-to content was viewed on YouTube.

“When we don’t know how to do something,” explained Davidson of the City University of New York, “the first thing we do is ask Alexa, Siri, Google, or YouTube.”

At work, employers are rethinking their training and development programs to respond to the evolving learning needs of their employees. Half of workers already prefer to learn at the point when they need to, according to a survey by LinkedIn of 4,000 human resources and learning and development executives.⁴ That’s why Xerox moved its professional-development courses online a decade ago, and now mixes face-to-face training with more than 10,000 short web-based videos and another 20,000 on-demand reference materials. “We think too much of education as having a beginning and an end,” said John Leutner, the longtime head of global learning at Xerox who retired in 2016.⁵ “We need to think about learning more iteratively and in milestones.”

The Learning Pathways of the Future

The dip in higher-education enrollment over the last few years has led some to declare that the end of college as we know it is coming. But traditional universities can and will continue to play a critical role in this new era—as long as they are willing to adapt.

Colleges must embrace the characteristics of learner-centered institutions, where technology and learning science is employed across the campus to give students

a fair shot at earning a degree at a reasonable cost. This new type of institution is already emerging at Purdue University, the University of Texas at Arlington, and Georgia State University.

The foundation of the university built for the Learner Revolution is an amalgamation of pathways that give students of all ages choices. “The bottom line is, if you’re not the one who’s controlling your learning, you’re not going to learn as well,” said Joel Voss, a neuroscientist at Northwestern University.⁶

This doesn’t mean learning in the future will be an ill-defined highway with no guardrails. Interviews with some three dozen educators and innovators for this paper identified **four primary pathways** that will guide learners in the decades ahead.

1 Online learning.

Compared to previous generations, more college students today have experience taking virtual courses—and that number is likely to grow exponentially in the future as a generation of digital natives enter their prime education years. According to the Pew Research Center, 23 percent of college graduates have taken an online course; among recent graduates that proportion rises to 46 percent.

Three main developments in online education in the last five years have led to growing numbers of students flocking to virtual courses.

First, the courses themselves are getting better. A decade ago, most online courses were simply the result of faculty members setting up a camera at the back of their classrooms and pressing “record.” Today’s online courses are designed with the audience in mind. Online courses are increasingly built by a team that combines the professor’s subject-matter expertise with instructional designers who play the roles of students and know how they learn.

Learning science has brought a bevy of improvements to online courses, including breaking up long lectures into short snippets, embedding short quizzes every few minutes, and curating discussion groups. A mix of synchronous (real time) and asynchronous learning (at your own pace) allows students to approach an online class that suits the different ways in which they learn.

Second, the technology is better. High-speed connections allow for watching courses in video so sharp it’s almost as if you’re in the same room with the professor. Advances in chat software allow students to form peer groups in real time via video or in online discussion boards.

Third, colleges and universities are more thoughtful about what they put online. When online tools first became widely available in the late 1990s, any professor interested in experimenting online was allowed to put a course out there. Now, universities are more strategic in what works online (and what doesn’t), according to a Boston Consulting Group study released earlier this year.⁷

“The greatest potential to improve access and outcomes while reducing costs lies in increasing the integration of digital learning” into the overall student experience, rather than just seeing it as an add-on or something that a group of students do, the study concluded.

Online education is increasingly part of a broader movement to ensure that students graduate with a credential. In the California State University system, more than 100,000 students take at least one online course because face-to-face courses are often full and unavailable. Without the online option, it would take students longer to graduate, or many might drop out short of a degree. At the University of Central Florida, undergraduates who take anywhere from 40 to 60 percent of their classes online graduate a semester or two earlier than students who take none (see Figure 4).

Changing Faculty Opinions about Online Learning

Improvements in online learning have changed opinions on its quality and effectiveness, particularly among the most skeptical group: faculty members.

A survey of instructional designers found the biggest barrier to online education is faculty buy-in.⁸ But once faculty members try teaching online, they are likely to become converts. In one survey, more than half of 2,700 faculty and administrators said they used digital courseware, and 52 percent of them said they valued its impact.⁹

“The faculty members who remain leery about online education usually haven’t taught a course online or even taken one,” said Mary Mancini, a senior associate dean in the College of Nursing and Health Innovation at the University of Texas at Arlington.

2 Hybrid education.

Hybrid learning is a mix between the classroom and the virtual. That definition is likely to take on expanded meaning in the Learner Revolution as students blend the two worlds both within individual courses and outside of the classroom. Indeed, the learner of the future will be one who toggles between platforms to access classes face-to-face, online, and with a mixed format.

For one, hybrid courses are expected to become more prevalent in the years ahead. Such courses are designed to give students a small amount of face-to-face instruction during a semester with the rest received online. So time-pressed learners who work or have other obligations can receive the benefits of in-person meetings, but also enjoy the flexibility of online learning. In any given semester, for instance, 10 percent of students at the University of Texas at Arlington and the University of Central Florida are enrolled in hybrid courses.

It's not just courses that will provide a blending of face-to-face and virtual, but so too will the overall learning experience for students. Colleges will seek to provide their online students with opportunities to learn and collaborate in person while also giving their residential students opportunities to take classes online. This mashup of experiences is already happening. At the University of Central Florida, three of every four full-time students take at least one online class every year. In this sense, higher education will follow the playbook of the retail sector in which several online upstarts, from the clothing retailer Bonobos to the eyeglass maker Warby Parker, use small physical outlets to drive traffic to their online-ordering channels.

Richard DeMillo, the executive director of the Center for 21st Century Universities at the Georgia Institute

The Benefits of Hybrid Courses

A study of hybrid courses at six public universities in 2012, conducted by Ithaka S+R, a nonprofit think tank, noted that substantial cost savings could come as a result. And it found that students learned just as much in a course taught partly online as they did in a traditional classroom.

In releasing the report, William Bowen, a former president of Princeton University and one of the authors of the study, said, "The most important single result" of the research was that "it calls into question the position of the skeptic who says, 'I don't want to try this because it will hurt my students.'"

of Technology, said students today often ignore the traditional boundaries set by their predecessors in which online classes and face-to-face campus experiences rarely mixed. He first observed this phenomenon a few years ago when Georgia Tech launched an online master's degree in computer science and students in the program started showing up at university events in their hometowns. Some of the online students even traveled to Atlanta for commencement—the first time many of them had ever set foot on the campus.

"They wanted to see in person the professors they got to know over video," DeMillo said. "Students don't have a problem blending the two experiences, either for efficiency or because they are digital natives."¹⁰

3 Immersive learning.

Another way the real and virtual worlds will meld together for learners is through virtual and augmented reality (VR/AR). While such futuristic technology might sound like the stuff of science fiction, it's already being used at some schools to help students understand historical events or interact with the real world from the comfort of their classrooms.

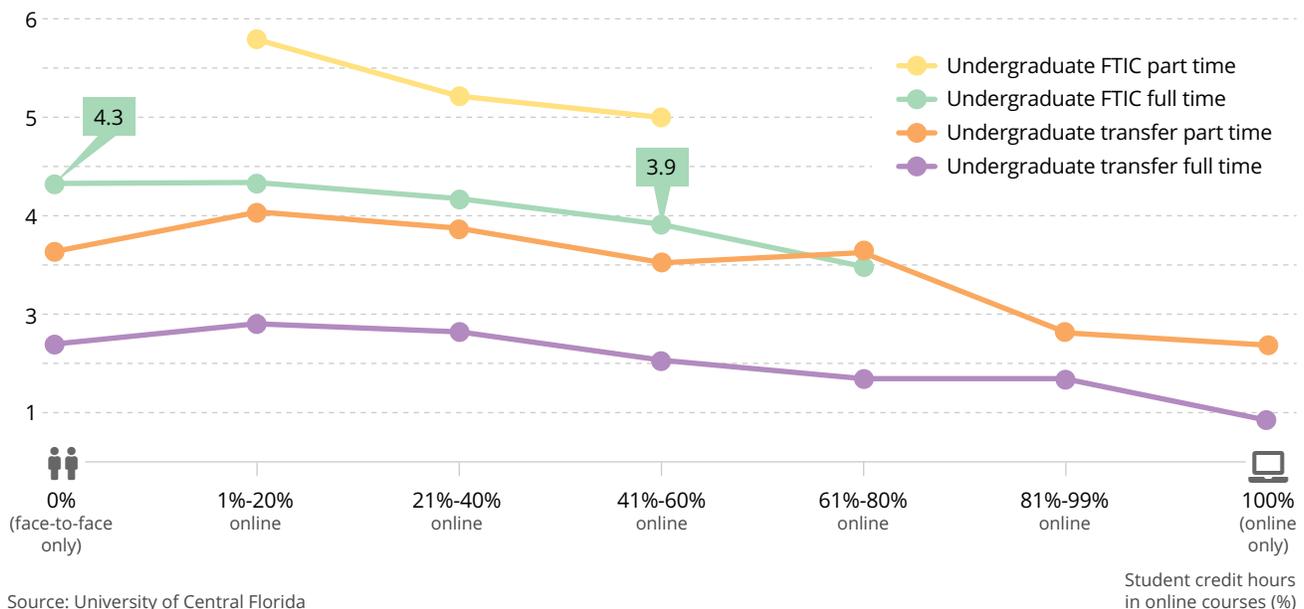
Western University of Health Sciences in California provides an immersive virtual world inside a lab so students can interact with patients before they walk into hospitals. Penn State does the same with prospective teachers before their real-life encounters with students. And the New School in New York City shows students what it was like to walk on either side of the Berlin Wall in the 1980s.

The promise of AR/VR is that it bridges photography and video to make flat images three-dimensional. "Everything with technology thus far has been moderated on some screen," said Maya Georgieva, director of digital learning at the New School in New York City. "But now we have this new medium. It's no longer thinking about typing something, it's about actually entering the space, and experiencing it, similar to the way you experience the physical world."¹¹

While virtual reality is being hyped much like MOOCs were in 2012, Will Richardson, said he imagines a time soon where it will gain wider adoption because students will demand it. "We have a generation of gamers in Millennials and Gen Z," said Richardson, author of several books, including *Personal Learning Networks: Using the Power of Connections to Transform Education*. "They have experienced learning by being in someone else's shoes, and they'll expect a better experience online and in the classroom."

FIGURE 4:
At Central Florida, Online Education Reduces Time to Degree

Average years to complete degree (AY 2015-2016 graduates)



4

The Classroom.

Don't write the obituary for the traditional classroom just yet. The physical campus will remain in higher education. But to survive, classroom instruction must be more participatory than it is today to help students develop the so-called soft skills (communication, team work, and problem solving). It should encourage a collaborative environment where the professor is no longer at the front of the room lecturing, but mixes with the students to guide their learning rather than lecture at them.

"Many of today's online classes are already better than lecture classes," said DeMillo. "Colleges need to find ways [to] add value to and differentiate the campus-based classroom experience or students will go online for the ease and convenience."

Enter active learning, where there are fewer lectures and more class-based workshops, moderated discussions, and students drive what they want to learn. One outcome of the MOOC-movement is that a growing number of colleges and universities have invested in teaching and learning centers to help faculty members design courses, teach online, or introduce more active-learning techniques in their existing classes. A 2015 survey found that some campuses were bringing together information technology departments and teaching centers to spark the development of better learning experiences, no matter the delivery method.¹²

"There's been a renaissance around teaching," said Edward Maloney, executive director of Georgetown University's Center for New Designs in Learning and Scholarship.

The physical classroom itself has also been getting a makeover. Campuses are remodeling old lecture halls by ripping out seats and replacing them with

Better Students or Better Classrooms?

Lectures aren't just boring—they have been found to be ineffective, too, when it comes to learning. A 2014 study of various learning environments found that active learning raises average exam grades by half a letter.¹³ What's more, the failure rates in active-learning classrooms are 22 percent compared to 34 percent in traditional lectures.

tables that allow students to move between a lecture and group work. In classrooms, tablet-arm chairs are being tossed in favor of chairs on wheels to give learners flexibility to move while looking at screens around the room.

One model of the future campus-based classroom is on display at Oregon State University. When presented with the opportunity to start from scratch, the university constructed a new classroom building filled with alternative-style lecture halls and classrooms. The largest room in the Learning Innovation Center looks more like a mini-arena where the 600 seats are in a circle around a center stage and giant screens surround learners. The classroom contains plenty of aisles and open spaces allowing professors to roam around as they talk or check on students.

"The physical components of redesigning the classroom is not the hard part," said Susana Rivera-Mills, Oregon State's vice provost for academic programs and learning innovation. "It's changing the minds of professors to have a different philosophy about education. It's about student-centered design."

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Preparing for the Next Generation of Learning

The Learner Revolution will require colleges and universities to adapt their legacy models not only to new cohorts of students but also to new methods of teaching and an ever-evolving workforce. In an era of constrained resources for both public and private institutions, the levers colleges pull in the decade ahead will be critical to their success.

First, they need to harness data on student learning from the myriad of campus technology platforms. By finding patterns and predicting behaviors, institutions can better understand how to more efficiently help learners achieve their ultimate goals.

Second, they need to segment their learners based on needs rather than simply demographic characteristics.

In part two of this series, we will outline some of the steps colleges can take at the top of the funnel in recruiting and admissions to better serve the learners of the future.

The desires of learners coming into higher education are much more diverse than those in the past. Institutions need to understand the motivations of these new sets of students and create programs and services to serve them from the variety of learning pathways outlined in this report.

Third, they need to create more innovative cultures. The pace of change in higher education is slow. An approach that embraces technology in teaching and puts students at the center of the learning process is a sharp departure from the past—it will take time and require the participation and buy-in of top leadership that acknowledges, rewards, and incentivizes faculty members and deans to pursue educational innovation.

Sources

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² Unless otherwise noted, quotes are from interviews conducted with the author between February 2018 and May 2018.

³ Ronan DeRennesse, "Virtual digital assistants to overtake world population by 2021," May 17, 2017.

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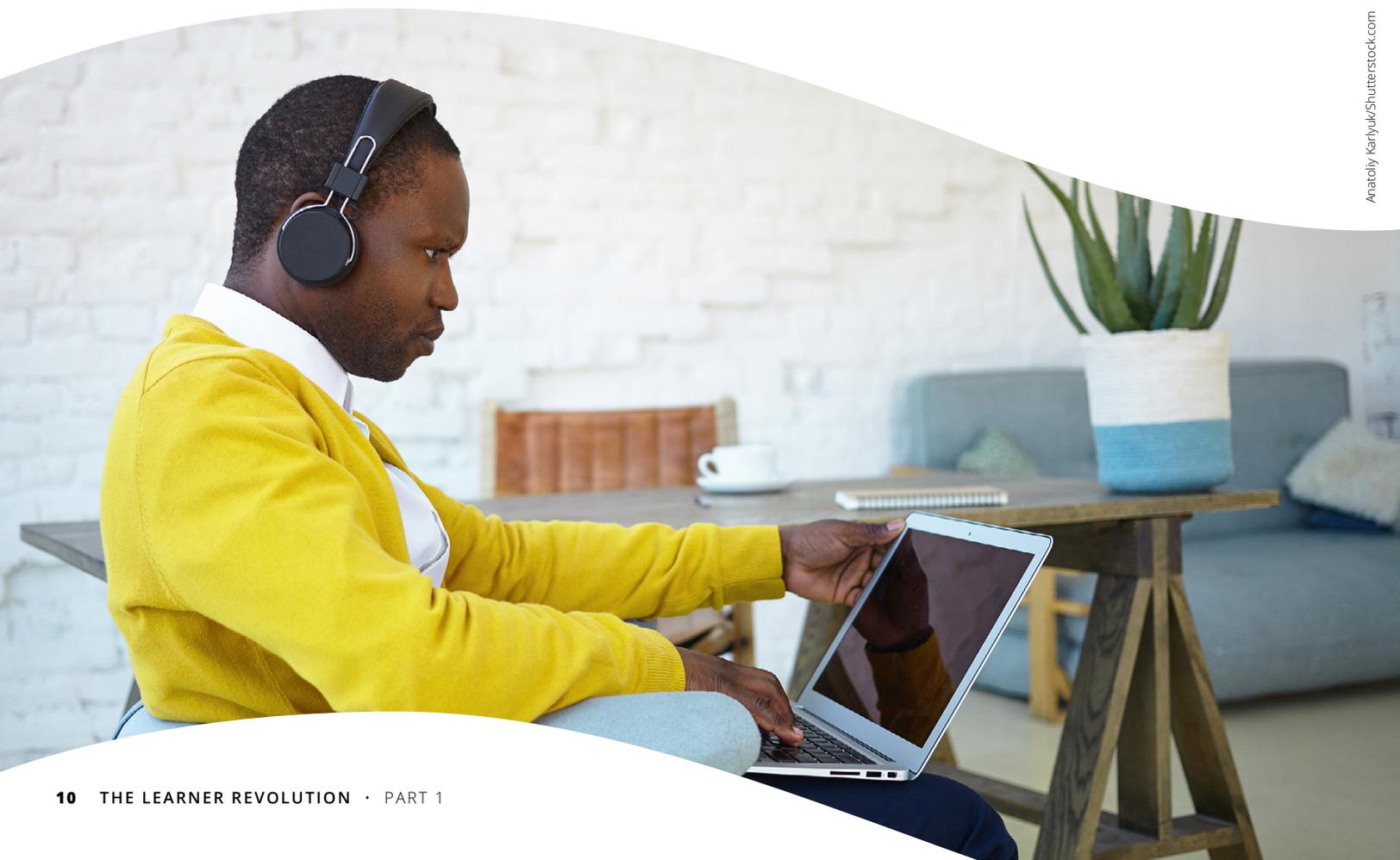
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About the author

Jeffrey J. Selingo has written about higher education for two decades. He is the author of three books, including two New York Times bestsellers. Named one of LinkedIn's must-know influencers of 2016, Jeff is a special advisor at Arizona State University, where he directs the Academy for Innovative Higher Education Leadership, in partnership with Georgetown University. In addition, he is a visiting scholar at Georgia Tech's Center for 21st Century Universities, and a regular contributor to the *Washington Post* and the *Atlantic*. You can find out more about him at jeffselingo.com

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