Already on the verge of momentous change at the beginning of 2020, higher education has been thrust closer to radical transformation by the forced shutdown or dramatic thinning out of in-person instruction. Some expect—or call for—a return to normality.

But normality will not likely return. Instead, this sudden disruption of in-person higher education has accelerated—by many years—a structural transformation that has long been coming.

New ways of teaching and learning are emerging as classrooms go virtual, catalyzed by the COVID-19 response. And new ways of tracking, measuring, and accounting for accomplishment in learning are quickly coming online.

So what can we expect after our initial response to COVID-19? Which programs can avoid being casualties of this pandemic? How should we reimagine higher education in the aftermath? I led the digital transformation at Rotman School of Management at the University of Toronto, readying its response to the ways in which governments have responded to COVID-19. I have come to see the crisis as a unique opportunity to forge into the future of education.
Rethinking Higher Ed Post–COVID-19

In response to the COVID-19 pandemic, the standard activity sets and structures that comprise on-campus college programs are being challenged. Traditionally, the core offering covers students’ required courses in an area of study, along with the electives and extracurriculars that bring learners and instructors together. Outside this core, there are the learning tools and technologies that help students engage with content, instructors, and one another: course modules; analytical and data engines that match students to courses, advisors, and career paths; and cloud platforms (such as Amazon, Google, or Microsoft) that host learning management systems (such as Blackboard, Brightspace, Canvas, and Moodle).

In the traditional model, students are expected to learn what is taught, and what is taught is expected to increase students’ skills and abilities proficiently and sufficiently for them to contribute meaningfully in their first work assignments. Colleges and universities tout campus interactions and intra- and extracurricular activities that further enhance a student’s knowledge. Social learning—the “joint attention” of sharing experiences with others—is the draw and differentiator of the in-person, on-campus college experience. Learners learn from one another—not only from written and visual materials or from instructors—the common wisdom goes.

But post–COVID-19 and in its aftermath, higher education looks different. Faculty and students have hastily transitioned to online instruction with varied levels of success. Core courses that had filled up hundred-student lecture halls have had to be offered virtually. Learners discovered it was difficult—though not impossible—to learn from other students and from instructors, even at a distance. And in colleges and universities, this led to challenging questions of quality, scale, and scope, like these: Do we need microeconomics courses at each of the 20,000 campuses worldwide? Could we do with 10? Do we need 1,000 courses on applications of ordinary differential equations? What if five are enough, and could engage students with mini modules that refer to symbolic manipulation platforms (Symbolab and Mathematica, for example) or massively distributed mutual help platforms (such as expii)?
A Look Ahead: Cloud-Based Learning Restructures the College Experience

Consider computer engineering students interested in algorithmic intelligence. Their educational experience must impart to them the specific skills they need to work in volatile, uncertain, complex organizations and in technical domains experiencing high rates of change. These skills are technical, but they are also social and relational in nature—cognitive as well as emotional, verbal as well as visceral.

Currently, universities provide these skills in a core comprising classroom lectures and tutorials, while “hard to teach” skills like communication and contextual intelligence are left to extracurricular activities, professional development programs, and student clubs (see Figure 1 below).

Figure 1: The current university structure
A robust and far-ranging personal learning cloud and an institutional emphasis on the skills that truly need social context for development can turn higher education inside out (see Figure 2 below). With a robust personal learning cloud now available, cognitive and technical skill-building can move online via tools and platforms such as Coursera, edX, Udacity, Udemy, and 2U. Learners can achieve a level of personalization and specialization in their studies and follow responsive, adaptive learning pathways that are most likely to build specific skills and expertise.

This frees up the university to focus on core skills such as problem solving, communication, and interpretation—skills that employers and industries prize. While the cloud enhances the entire learning experience, from online courses to analytical tools and information systems, this reimagined higher landscape has at its core the relational, social, and emotional learning that gives an educational institution its distinct identity.
What Programs Are at Risk?

While COVID-19 has catalyzed a reimagining of education, this change has been in the works for years, as the personal learning cloud has evolved. Now, driven students can enroll directly in micro-certification programs (notably, MIT’s MicroMasters programs have no standard academic prerequisites and their applicants include high school graduates); forego a customary college education by taking courses from leading universities; or replace professional master’s degree programs by bundling courses with the right combination of skills, timetables, and milieus—often at a fraction of the cost of a traditional program. So, in the post–COVID-19 higher education landscape, which programs are most at risk?

Large lecture-based courses and programs that exclusively rely on them. Undifferentiated programs in private and public universities that offer learning experiences en masse—even with the most skillful lecturers—will have a very difficult time when compared to the cost and experience of courses in the cloud. Consider the worst—and increasingly representative—stereotypes of the large classroom experience: overly long lectures, disengaged learners, an instructor pretending to be unaware they are being ignored. It is a challenge to compare such experiences favorably to an online program when costs and benefits are weighed together. Moreover, the “distancing” requirements of post-COVID-19 classroom teaching often entail a three- to five-fold increase in the utilization rate of teaching faculty—a differential that is not sustainable under the current operating cost conditions of most colleges and universities.

What can be done? Larger institutions will need to radically change the learning experiences they provide and include a host of interactive experiences and activities that are demonstrably conducive to developing higher levels of the kinds of social and relational skills that businesses seek. They will need to create personalized learning environments that lead to better global learning outcomes in terms of role- and job-relevant skills than do their lower-cost online alternatives.

Small colleges. At the other end of the spectrum are the small colleges and universities—approximately 2,500 in North America alone. These smaller institutions derive their livelihood by providing or claiming to provide personalized and intimate experiences. But they are also in grave danger in this new era of social distancing. Learners at some smaller colleges have already questioned the costs of on-campus, personalized learning experience.
Now students have seen their small classes and seminars go online—often with administration claims that these courses are equal in value to their in-person counterparts. At the same time, many small institutions were already struggling and can find it challenging to compete for relevant, state-of-the-art classroom courses and resources, particularly in the sciences.

**What can be done?** Here, the personal learning cloud provides a viable alternative that is cost-effective, ubiquitous, and, as verified certification tools take hold, fully trackable and verifiable. Having dedicated coaches and mentors for every student is one way in which some universities—like the “student-obsessed” Western Governors’ University—deliver on the promise of real personalization. The challenge and opportunity for smaller institutions is to curate and appropriate online classes into the curriculum in ways that do not make the experience seem generic or impersonal. They can do this because they have been adequately and accurately curated and adapted to the information that the university has about each learner.

**Professional degree programs.** Social distancing has increased the costs of in-person interactions, the “know-who” factor that most executive programs use to compel companies to send them their aspiring and high-potential managers and executives. To be worthwhile now, they must provide far greater and more provable benefits than ever before. When costs become large enough, benefits are closely scrutinized. The most ROI-sensitive scenarios are likely to be affected first and hit hardest. And there may be no programs more ROI-sensitive than MBA and executive MBA programs, costing, in some cases, upwards of $200,000.

Although MBA enrollment has seen downward trends over the past 10 years, and many online, hybrid, and mixed-mode alternatives have emerged, the long-predicted, large-scale downward correction has not come to pass. However, professional programs are not just under pressure to differentiate the value of their offerings over remote courses. They also have an added challenge: as they moved their courses online quickly in March through June of 2020, they produced a wealth of new online offerings, along with a new supply of instructors who are fully engaged with the online medium. Much of this content may end up online on the personal learning cloud.

**What can be done?** Professional programs will need to make efficient use of online courses and learning technology and distinguish their faculty and the program’s experiential offerings from an array of remote and online options.
Whom Can We Expect to Thrive?

In any industry-transforming experience, the tuned-in, the insightful, and the audacious get the spoils. As greater personalization and contextualization is prized and learners orient toward skills- and career-enhancing programs, there are opportunities ahead for a number of platforms, technologies, and institutions. Look for the following:

- **Platforms that can be used to curate and shape curricula.** Platforms such as edX, Coursera, LinkedIn Learning, 2U, Emeritus, and FutureLearn help learners, as well as institutions, assemble degrees and diplomas using high-quality courses from leading institutions. These platforms could lower the costs of providing a state-of-the-art education for many colleges and universities and free up resources to tailor core, in-person educational experiences that align with the institution’s highest values.

- **Leading universities that efficiently develop and deploy online and hybrid learning vehicles for widespread use and adoption.** Such courses, applications, and platforms can then become part of the personal learning cloud used by learners and as part of training and curricula worldwide. For these universities, this will remain important as both pedagogical tools, but also as substantive intellectual property that can enable faculty in many institutions to engage in online course development and to innovate in the online learning space.

- **Technologies that help students “cut through the distance” that have been abruptly imposed by online learning in the wake of COVID-19.** Video analytics provide feedback on learning and presentation that enable executive education platforms that help students develop relational and social skills previously thought to be attainable only through in-person interactions. For learners, becoming adept at virtual communication and instruction will be an increasingly relevant and marketable skill.

- **Ways to proctor and administer online tests and exams.** If exams are a basic currency of the higher education transactions, these testing platforms will be critical for remote instruction. Working hand in hand with verified credential systems, these platforms will increase the
credibility and trustworthiness of exam results. Examples include
machine-learning–powered proctoring (or invigilation) and analysis to
verify test results, cameras for supervising exam takers, or the
recording of oral exams to replace written tests.

- **Universities and colleges that develop close, long-term partnerships.** By becoming lifetime learning partners with successful
organizations, universities and colleges will remain relevant by staying
“close to the action” of industries and employers and will maintain
their viability and compare favorably to online alternatives by serving
learners across the course of their careers.

**The Post-COVID Prognosis for Campus Learning**

Making it through the abrupt transition to remote learning has required grit,
resilience, and self-reliance on the part of students and faculty alike. But what
comes next is an opportunity for a more thoughtful, strategic transformation of
higher education. Taking the time to rethink and redesign the scope and scale of
higher learning and realize the efficiencies enabled by the personal learning
cloud also frees up resources to invest in the very best of what makes campus
learning uniquely valuable.