The *Horizon Report* Trends

EDUCAUSE

III
GENERAL PRINCIPLES OF COLLEGE TEACHING

THE investigator of educational practices and methods of teaching is impressed with an unmistakable educational anti-climax, for the conviction grows on him that elementary school teaching is on a relatively high plane, that secondary school teaching is not as effective, and that collegiate teaching, with rare exceptions, is ineffective and in urgent need of reform. A superficial survey of educational pedagogics is still virgin soil, and no significant or extensive program for improved methods of college teaching has yet been advanced.

Three earnest and intelligent students representing three colleges of undisputed standing were asked informally about their instructors for the current semester. Nothing was said to make these students aware that their friendly conversation had any significance beyond the usual conclusion. The institutions of more than average standing in three recognized because it reflects typical college teaching.

The student of scientific and statistical measurements in education may object to attaching any importance to these informal characterizations of college teachers by under-

and of the sequence and content of courses. Methods of teaching are rarely, if ever, brought up for discussion. The results are inevitable. Weaknesses in teaching are perpetuated, while the devices and practices of an effective

Anticipating the future is human nature.

As anyone who has tried meditation knows, staying in the present is surprisingly difficult because our minds spend so much time reflecting on the past or anticipating the future. Humans are planners, worriers, and dreamers, and those plans, worries, and dreams are rooted in our mental constructs of the future. For sixteen years, the *Horizon Report* has provided a construct of the future of educational technology in higher education, based on a structure of three time horizons.

Anticipating the future is risky.

As any science fiction reader or future-enthusiast knows, extricating present-state experience from visions of the future is very difficult.[1] The track record of predictions—whether about the stock market, the World Series, world events, or technology—is generally so poor that it's a wonder anyone dares to make them. With technology in particular, we tend to overestimate its short-term impact and underestimate its long-term impact.[2] The *Horizon Report* has provided ample documentation of predictions, from educational technology experts, of the future impact of technology on teaching, learning, and creative inquiry. Unfortunately, its track record has been described as fair to middling.[3] Why would EDUCAUSE bother to continue this publication if its level of accuracy is so low?

learning outcomes, level of risk in adoption, faculty receptiveness, issues of equity and inclusion, and required level of spending.

Anticipating the future is necessary. Today's decisions are always bets on what we think the future will be. The 2020 *EDUCAUSE Horizon Report*™ | *Teaching and Learning Editio*n is not meant to be a fun, "cool" list of hyped technologies for the field to debate and debunk. It is meant to inform decision makers and help learners, instructors, and leaders think more deeply about the educational technology choices they are making and their reasons for doing so. And so, our final choice in reimagining the *Horizon Report* was to provide more-helpful, richer resources to assist the community in considering choices and formulating action plans. In addition to identifying trends and emerging technologies and practices, we offer scenarios for how the future could play out. Will higher education grow in size and importance? Will higher education as we know it fade away or even collapse entirely? Will it remain essentially the same, neither expanding nor contracting? Or will it transform and become almost unrecognizable from today's model of higher education? No one can say, but we have tried to paint those four scenarios to help readers think more expansively about the future of their institutions and our industry so that they can plan and act more thoughtfully today. Finally, the report includes a set of short essays, written from different regional and institutional perspectives, on the implications of the report findings.

Below we offer the first section of the 2020 *EDUCAUSE Horizon Report*™ | *Teaching and Learning Edition:* the fifteen social, technological, economic, higher education, and political trends that are shaping global higher education and teaching and learning. The full *Horizon Report* can be found online at https://www.educause.edu/horizon-report-2020.

Fifteen Trends

For the 2020 *Horizon Report,* we begin with a focus on bigger-picture developments around and within higher education. What can we say about the world in which teaching and learning technologies and practices are taking shape, as well as about the world that institutions, instructors, and learners are going to inhabit in the future? Teaching and learning doesn't take place in a vacuum, after all, and understanding the trajectories of such large-scale trends can only help decision makers and professionals build more responsive and sustainable environments and practices at their institutions.

n assuming ownership of the *Horizon Report,* EDUCAUSE recognized the challenges of anticipating the future. We have, in this first major revision of the report's methodology, structure, and content, striven to break the mold of the classic *Horizon Report* without losing its essential purpose. This recasting of the report recognizes that our thoughts about the future are rooted in the present and how it has changed from the past. The report begins with a scan of our current environment to identify the major trends that are shaping global higher education and teaching and learning. The Horizon Expert Panel named fifteen social, technological, economic, higher education, and political trends that signal departures from the past, that are influencing the present, and that will almost certainly help shape the future. For educational technologies, the report moves away from the time-to-adoption structure, which implied a prediction precision that the project was unable to achieve. In its place, the new report offers evidence, data, and scenarios. The report includes evidence for the trends, as well as panelists' quantitative ratings of factors that often temper actual adoption of emerging technologies and practices in higher education. These factors include impact on

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To help us explore these larger forces taking shape around higher education, we asked the Horizon Expert Panel to survey the landscape and identify the most influential trends shaping higher education teaching and learning. To ensure that we identified a wide array of trends, we asked panelists to look across five categories: social, technological, economic, higher education, and political. This section summarizes the trends the panelists voted as most important in each of these categories, as well as anticipated impacts of and evidence for each trend.

For each of the trends, there is far more complexity and variability across types of institutions and regions of the world than can be adequately captured in such a brief summary. Indeed, our expert panelists—35 percent of whom represented communities outside the United States, including Australia, China, Egypt, France, Taiwan, and the United Kingdom—routinely reflected on the ways in which trends affect institutions differently across global settings. Where possible, we've tried to account for that variability, though the reader will certainly bring additional experiences and contexts that would further broaden those considerations.

Social Trends
Teaching and learning is a human endeavor, conducted by people for the benefit of others. As such, global trends taking shape across societies and within communities—trends reflecting who we are and what we experience as persons, both individually and collectively—inevitably make their way into educational decisions and practices.

Well-Being and Mental Health
Impacts: Well-being and mental health initiatives at colleges and universities, including emerging technology and application solutions, need to support the increasing numbers of students who report experiencing
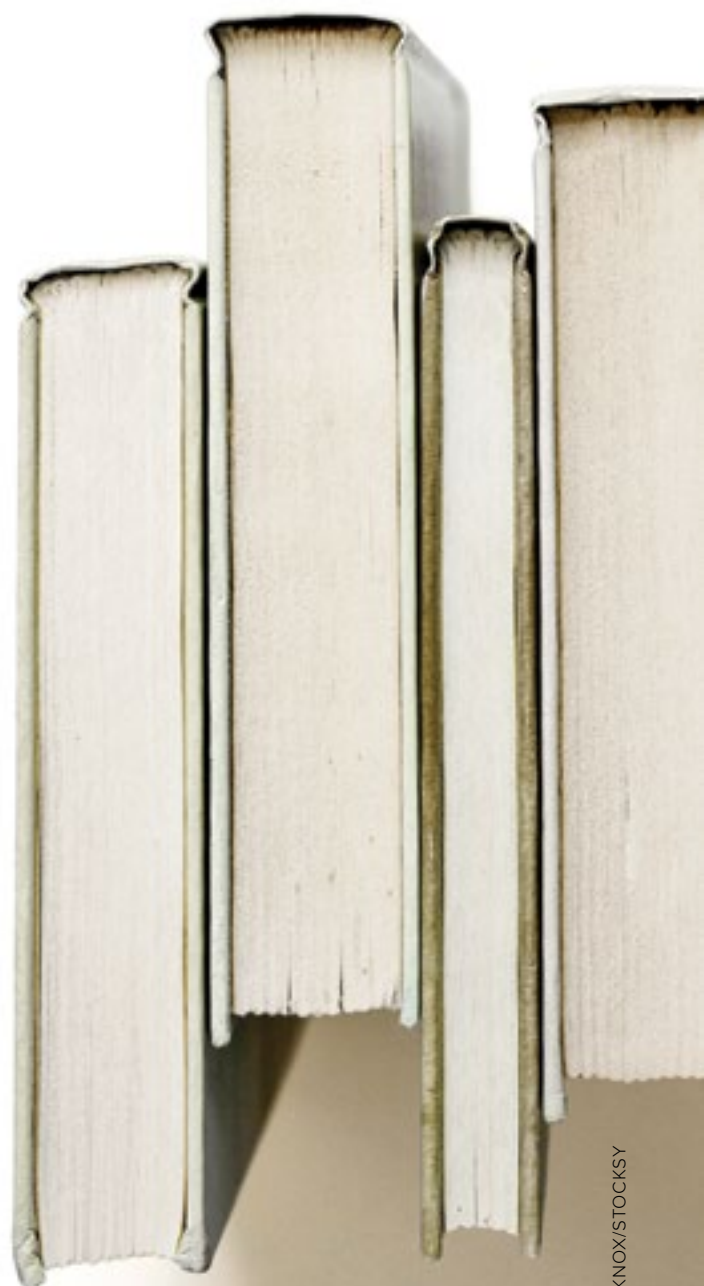
anxiety, depression, and related concerns. Faculty and administrators will need to navigate more frequent encounters with students seeking well-being and mental health help, since students who do not have effective intervention services or treatment available to them will likely be less successful in academic and social activities.

Evidence: The META app—an online platform focused on connecting students with therapists for video or phone therapy sessions—launches and provides a simple, fast counseling tool for college and university students. Institutions in New Zealand and parts of Australia are using the Ripple app from the Australian Childhood Trauma Group. The app focuses on students' feelings and eating and sleeping patterns.

Demographic Changes

Impacts: Ongoing shifts in the demographics of global populations, including migration trends and patterns, are leading to a new outlook on how higher education must serve students in the future. Increasing numbers of nontraditional students and changes in the concept of the "typical" student will continue to force institutions to consider alternative approaches to higher education (e.g., campus housing programs and models, online education). Reflecting student migration patterns, international enrollments will continue to rise, such as with US student enrollments at Canadian institutions and Chinese student enrollments at Australian institutions.

Evidence: The fertility decline that many industrial nations around the world are experiencing suggests a new era in higher education, an era of at least a decade in which the number of students in each year's prospective student pool is smaller than the last. The share of US Millennial women with a bachelor's degree is higher than that of US Millennial men, a reversal from the Baby Boomers and the Silent Generation.

Equity and Fair Practices

Impacts: Equity and diversity goals and agendas are increasingly prevalent in higher education. In some instances, institutional performance goals related to equity of completion outcomes are tied to funding. Professional development among faculty, staff, and administrators can influence the ways in which curriculum is structured, pedagogy is delivered (e.g., culturally responsive), and service and support are rendered to students and the community.

Evidence: Last year Harvard University became embroiled in controversy over its race-conscious admissions policies. And in April 2019, a Pew study found that US college and university students are twice as likely as faculty to be black and four times as likely to be Hispanic.

Technological Trends

The educational experiences of instructors and learners are always scaffolded and enhanced by systems and tools, whether a paper gradebook and abacus or an online discussion forum and virtual reality lab. Those educational systems and tools often reflect wider technological advances taking hold in other industries and sectors of society, at the same time introducing both promise and risk for global higher education.

Artificial Intelligence

Impacts: Artificial intelligence (AI) is already being used as part of educational services and as part of curriculum design. Increasingly it will be used by human instructors for providing feedback on student work and for helping with other "virtual teaching assistant" applications. It may also have applications for refining language translation and for improving access for students with visual or hearing impairments.

Evidence: Amazon has introduced the Alexa Education Skill API. A public-school district in North Carolina is using Microsoft Translator to improve language options for both parents and students.

Next-Generation Digital Learning Environment

Impacts: The next generation digital learning environment (NGDLE) is creating a transformational shift in how institutions architect their learning ecosystems for learners and instructors. Institutions are increasingly requiring support of open standards in educational technology applications, which enable institutions to offer a more flexible learning experience to more students, both synchronously and asynchronously. The agility provided by such an architecture can afford learners and instructors alike the opportunity to "think outside the box" and reconceptualize their approaches to education.

Evidence: Use of the IMS Global LTI (Learning Tools Interoperability) standard is becoming widespread. The University of Wisconsin has adopted Blackboard Collaborate Ultra as its total learning architecture (TLA) in tandem with the Canvas LMS.

Analytics and Privacy Questions

Impacts: Higher education institutions continue to invest billions of dollars in analytics capabilities, and cost-benefit implications for student privacy will become an increasingly important consideration. Institutions will need to be more proactive in protecting student and employee data and must make careful decisions around partnerships and data exchanges with other organizations, vendors, and governments. Institutional relationships with technologies—and with platforms such as Facebook and Google—should reflect larger cultural preferences and tolerances for privacy.

Evidence: The European Union implemented the General Data Protection Regulation (GDPR) in 2018. China is launching a "social credit" system. Google estimates that its Google Apps for Education (GAFE) will reach 110 million users by 2020.

Economic Trends

Institutions of higher education are both products of and contributors to the economies, environments, and industries that compose the global landscape. In an increasingly connected, open, and scrutinizing world, institutions are expected to be wise and judicious stewards of the resources that enable them to exist and operate. They are also expected to contribute something of value to the larger world and to effectively generate the knowledge and skills that people need to work and live—all at a reasonable cost. Absent this perceived value, institutions of higher education in many countries will likely continue to see declines in funding from supporting governments and industries.

Cost of Higher Education

Impacts: The growth of the private education sector in countries such as Egypt, Germany, and France will see global levels of student debt continue to rise and will establish more "elite" forms of higher education. The rising cost of tuition, combined with decreased funding from public and other sources, will expand the US student debt crisis and lead to multiple long-term economic effects. Students' independence in adulthood (e.g., purchasing a home, having children, contributing to the economy) will be impacted. Institutions need to demonstrate their value and/or adjust to economic realities with new business/funding models.

Evidence: The US Congress is seeking to pass the Employer Participation in Repayment Act, expanding

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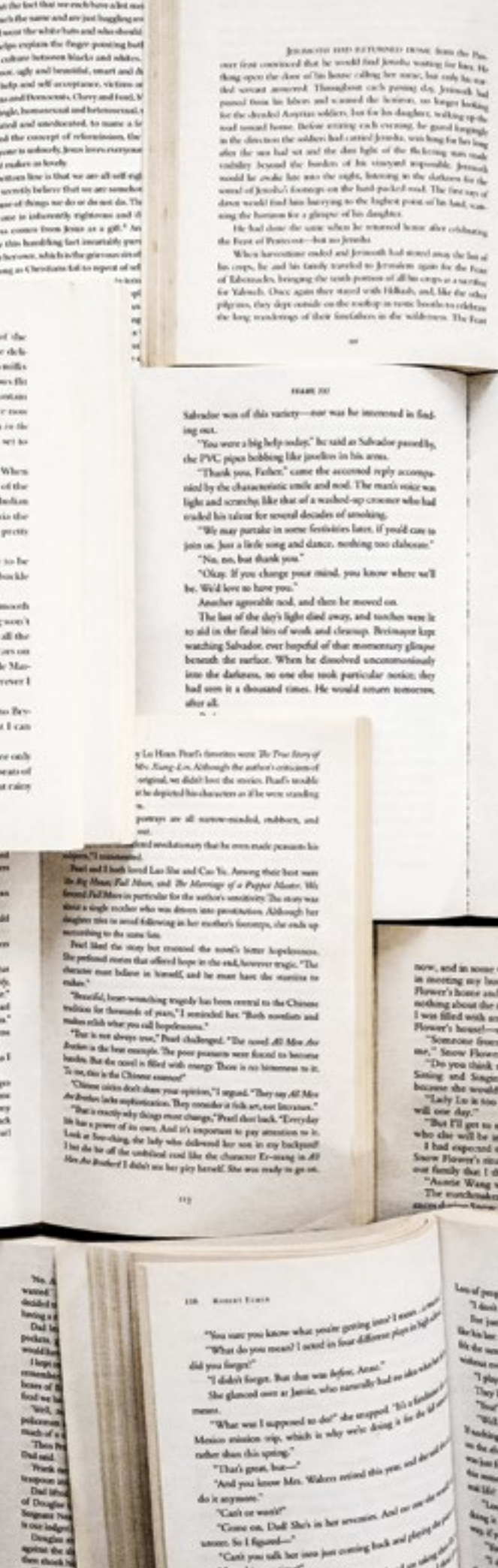
employers' assistance with employee student debt. Institutional adoption of open educational resources (OER) continues to steadily rise.

Future of Work and Skills
Impacts: In order to stay relevant and sustainable, institutions will need to adjust their courses, curriculum, and degree programs to meet learners' needs, as well as the demands of new industries and an evolving workforce (e.g., automation, digital literacy, gig economy). Demand for lifelong learning and skills renewal will also increase. Industries will seek to partner with organizations outside institutions of traditional higher education for skills development and workforce recruitment.

Evidence: The World Economic Forum predicts that at least 133 million new jobs will be generated globally by 2022 as a result of the new division of labor between humans, machines, and algorithms. In the fall of 2019, Sheffield College in the United Kingdom opened the Liberty Steel Female Engineering Academy to address the disproportionate engineering skills gap among women.

Climate Change
Impacts: Sustainable living and learning will become a higher priority for higher education institutions as we continue to learn about the effects of climate change and explore strategies for mitigating those effects. More institutions will focus on online learning as a sustainable educational model as students and faculty become less willing or able to commute. Extreme global weather events and droughts will impact students' well-being and educational attainment, particularly in rural and/or under-resourced communities.

Evidence: A global group of colleges and universities is committing to becoming carbon-neutral by 2030. Institutions in California (e.g., UC Berkeley) are sometimes forced to operate on limited power due to widespread power outages, resulting in lost instruction days.

Higher Education Trends
Notions of what higher education should be, of what its ultimate purpose or goals should be, and of whom it is intended to serve seem to be constantly in flux in response to larger trends and shifts in human thinking and social, political, and economic relationships. Future models of higher education, as well as future

practices in teaching and learning, will need to adapt to these trends and fundamentally rethink what higher education *is*.

Changes in Student Population

Impacts: Global fertility rates have decreased 50 percent since 1960, potentially leading to fewer students and presenting fiscal challenges, especially for smaller and tuition-dependent institutions. Increased student diversity (in age, ethnicity, and other factors) requires institutional leaders to rethink how to achieve their teaching and learning missions and will demand a new emphasis on holistic student success.

Evidence: It has been predicted that US college enrollments will drop by as much as 10 percent by the late 2020s. Minority students today account for roughly half of all high school graduates in the United States.

Alternative Pathways to Education

Impacts: Institutions must rethink their degree pathways to accommodate a changing student demographic and employment landscape. Alternatives include nano- and micro-degrees, competency-based programs, expanded online options, and portable and standards-based credentials, as well as increased collaboration and partnerships with other institutions. Advising programs will utilize integrated platforms and data.

Evidence: Southern New Hampshire University (SNHU) now awards college credit for Salesforce skills. Through aggregators such as EdX, institutions are offering an increasing number of low-cost master's degree programs.

Online Education

Impacts: Online education is increasingly seen as a scalable means to provide courses to an increasingly nontraditional student population. Faculty must be prepared to teach in online, blended, and face-to-face modes. Higher education institutions are moving to new models for online programs, such as assessment (competency) and crediting (microcredentials and digital badging). Institutions will increasingly engage with online program managers (OPMs) to jumpstart online programs.

Evidence: California's Online Community College initiative gives students access to courses across its community college system. In Canada, fully online student enrollments have been increasing by roughly 10 percent annually over the past five years.

Political Trends

Across the world and within our own communities and homes, we seem to be living through a period of significant political transformation and are experiencing political divisiveness at unprecedented levels. As these political trends continue to take shape, they will undoubtedly have a lasting impact on models and practices of higher education teaching and learning. From policy agendas and legislative battles that target educational standards and funding, to the political discourses that are taking place on the ground at campuses and in classrooms, higher education will continue to influence and be a product of the political world around it.

Decrease in Higher Education Funding

Impacts: As public funding for higher education continues to decrease in the United States, institutions must pursue alternative business and funding models to sustain operations. Alternative approaches may include privatization of the industry, microcredentialing, establishing partnerships with other industries or organizations, and other more sustainable models. Meanwhile, teaching, learning, and research practices will be increasingly driven by opportunities to secure funding.

Evidence: The University of Alaska budget was cut by 41 percent in 2019. Continued federal funding for Historically Black Colleges and Universities (HBCUs) and other Minority-Serving Institutions (MSIs) continues to be hotly contested in the US Congress.

Value of Higher Education

Impacts: A majority of adults in the United States believe the higher education industry is headed in the wrong direction, due either to the increasing cost of higher education or to the perceived social or political bent of higher education. Millennials tend to believe in the value of higher education, though they express concern over the cost. As overall enrollments continue to decline, institutions will be forced to identify alternative education or business models.

Evidence: In the 2018–19 academic year, college/university enrollments in the United States declined for the eighth consecutive year, decreasing 1.7 percent in the spring of 2019 compared with the previous spring.

Political Polarization

Impacts: In some instances, heightening tensions between political worldviews have been leading to increasingly heated debates on campuses and, in other cases, to self-censorship among faculty and students who feel uncomfortable speaking up on potentially divisive issues. In the United States, legislation that could impact and benefit higher education will become more difficult to pass through an intensely polarized Congress and entrenched political positions.

Evidence: The Wisconsin Legislature has proposed new free-speech guidelines for the University of Wisconsin system focused on protecting the "expressive rights of others." In 2017 Georgetown University launched its Free Speech Tracker to monitor threats to political, social, and intellectual expression.

Conclusion

We hope the 2020 *EDUCAUSE Horizon Report* will enable you to learn, plan, and act. In the months after its release, community members will no doubt talk and write about how it differs from the *Horizon Report* in previous years. While that lens on the past is interesting, we care more about looking ahead: how does the new *Horizon Report* help you today as you think about what tomorrow will bring? Let us know. We will be listening. And learning from you. ∎

Notes

EDUCAUSE Horizon Report is a trademark of EDUCAUSE.
1. See John O'Brien, "Back to the Future of EdTech: A Meditation," *EDUCAUSE Review 52*, no. 2 (March/April 2017).
2. This observation seems to be part of technologists' collective consciousness; it has been attributed to many people, from Arthur C. Clarke to Bill Gates, but its actual origin remains elusive. See "People Tend to Overestimate," *Quote Investigator* (website), January 3, 2019.
3. For two opinions about the value of the *Horizon Report*'s predictions, see Audrey Watters, "The 100 Worst Ed-Tech Debacles of the Decade," *Hack Education* (blog), December 31, 2019, and Stephen Downes, "Horizon Report Preview 2019," *Stephen Downes* (website), February 28, 2019.