On July 1, 1998, EDUCAUSE was created through a merger between CAUSE and Educom, with an original mission to advance higher education by promoting the intelligent use of information technology. To commemorate this anniversary, we hoped not only to review the monumental changes in the higher education IT field over the past two decades but also to glimpse into the future. And since we wanted to share broader perspectives from across our community, we gave you—our members—a chance to reflect on the anniversary. We asked you four questions as a way to solicit your opinions about the past, the future, and the intersection between the two.

We received approximately fifty responses—from EDUCAUSE members across professional titles, institutions, and years in the field. While not a quantitative study, the remarkable insights from members like you are valuable in other ways, creating a picture of the breadth and depth of members’ perspectives.

Part 1 and Part 2 highlight significant moments observed in the past and predicted for the future. Impressions of the past twenty years produced fifteen events that fell quite distinctly into three levels and generated consensus on the #1 development. However, respondents listed numerous and varied additional suggestions, resulting in Runners-up (2 nominations each) and Honorable Mentions (1 each). Interestingly, our respondents were much more unified in their view of the future, with just two developments coming in (with approximately equal votes) far ahead of all others. Part 3 and Part 4 offer our respondents’ insightful forecasts for the years ahead, followed by their sage advice for dealing with the dynamic higher ed IT environments to come.

Enjoy!

EDUCAUSE

Note
PART 1: 15-IN-20

What do you consider to be the most significant moments (e.g., developments, activities) in higher ed IT over the last twenty years?

Widely available internet resources and the wireless access to these resources. This is important as it has changed who has access to knowledge and how we can leverage it to create curiosity in our learners.

—JENNIFER SPARROW

Almost all higher education institutions are now connected to the internet. This has been the most transformative technological development impacting education over the last twenty years because it has opened at least the possibility of demolishing the parochialism of the traditional classroom experience, making education a truly global experience for the first time in human history.

—TOM HAYMES

Sure, the internet was a big deal. But without the truly functional web browsers and good search engines that appeared beginning in the late 1990s and early 2000s, we would not have been able to redesign enrollment management, course instruction/learning, and most every other tool we use every day and now take for granted. (Hint: Remember what it was like attempting to do integrated functions on SIS+?)

—JOHN C. CAVANAUGH

The development of internet identity, first within higher ed and then more broadly in the marketplace, was essential in adding a layer to the original internet that allowed scalable use of the network. If the original internet connected machines together, internet identity connected people together.

—KEN KLINGENSTEIN

The rise of global connectivity and networked applications supported by internet technology, especially Mosaic/ Netscape and the web, produced a whole new set of stresses on academia and forced a holistic view of IT as a technology base affecting all teaching and research activities.

—MIKE ROBERTS

The growth of the internet and the web. In about 1995, a group I managed in a research center started making full-text research papers available on the web (with permission of authors, of course). We were told we could not make them available with links in the main campus library because it would set user expectations too high—users might expect other articles and papers to be available in full text. And at the time, that argument was somewhat reasonable. Now we're at a point where if something is not available in full text on the internet, we're surprised.

—ELIZABETH A. EVANS

Even in the 1990s, universities were still islands unto themselves, in large part. But the interconnectedness that has resulted from information technology and the development and pervasiveness of internet connectivity has led to the need for all of higher education to become much more of a regional, national, and global community of scholars. Organizations like EDUCAUSE have excelled by bringing the humanware together, just as the hardware and software were brought together by networking.

—BRIAN D. VOSS
Analytics
Analytics, whether structured or unstructured (AI), allow us to use facts/data to understand everything from student success to business intelligence.

—SUE WORKMAN

Cloud
Cloud services represent a major shift impacting pace of innovation, staffing, policies, and overall capabilities of the higher education institution.

—JEFF BOHRER

Mobile
Mobility offered the opportunity to untether teaching and learning from the constraining boundaries of the classroom. Mobility in the form of laptops and mobile devices changed the way students interacted with knowledge in relation to where to find it, when to find it, and how to find it. Knowledge is no longer regulated to the confines of a textbook—it is ubiquitous. Students can look something up by swiping a finger or by uttering a question out loud. This empowers students to think critically, question the status quo, and expand on a topic to explore it more deeply.

—SUSAN E. METROS

Strategic IT
The most significant changes/moments for higher education IT in the last twenty years have not been technological but, rather, have been in the areas of leadership and management. Institutions of all types have recognized IT as a strategic resource, and CIOs have increasingly become part of institutional leadership at the highest levels. IT has been recognized as foundational/strategic in most areas of college and university life.

—DAVID SMALLEN

EDUCAUSE (founding)
I was chair of the Educom Board during the merger and was the inaugural chair of the EDUCAUSE Board. I think the merger was one of these significant moments. It represented the recognition by higher ed IT professionals of the evolving commonalities between academic [Educom] and administrative [CAUSE] systems and also between the integrative element of the internet, which had been the domain of academic technologies, and telephony/telecomm, which had been the domain of the administrative side of the house.

—DON RILEY

Cyber Risks/Security/Privacy
The rise of Google as an indispensable infrastructure to find information, the economics and innovative power of cloud-sourced software services, and the abilities and ubiquity of mobile devices all combined to form the cumulative challenge of cyber risks.

—BRAD WHEELER

By far the most significant moment in higher ed IT was the creation twenty years ago (on July 1, 1998) of EDUCAUSE through the merger of Educom and CAUSE. That was the moment that higher ed IT left its adolescence and became a cornerstone of higher education.

—MARTY RINGLE
Online Learning/Education
Online education brought the university into homes and made higher education available to people who were otherwise more limited in their options.
—MEGGAN LEVITT

LEVEL THREE
Collaboration
The continuing collaboration between universities, organizations, and nations to share their experiences with the aim of improving outcomes for students worldwide.
—STEVE JOHNSTON

Defunding of Higher Education
The defunding of higher education across the nation led to the student debt boom and to growing disbelief in higher education as a valuable investment.
—JIM PHELPS

Email
Ubiquitous email: everyone has an account, and everyone communicates about everything in email, including sending bills and grades notices.
—THERESA ROWE
Learning Management Systems
The development of functional learning management systems. The ability to integrate electronic course materials, lectures, shared documents for student work, videos, and academic support services, along with grading and faculty tools, revolutionized instruction and spurred the development and deployment of high-impact practices. It also led directly to increased student academic success and degree completion through the ability to embed tutorial and other smart systems.

—JOHN C. CAVALAUGH

Social Media/Networking
With social media, students in classes can create community in a way that is fast, easy, and can be outside the control of faculty. The rapid spread of information through social networks can be good or bad, depending on the information but not depending on any control higher ed IT has on it.

—ELIZABETH A. EVANS

Open Technology & Open Educational Resources
The emergence and legitimizing of “open” technology projects ranging from Linux to Mozilla to Apache and more recently to Chromium, Android, and OpenFlow, and now to Kuali—may they continue indefinitely!

—ERIC DENNA

RUNNERS-UP
Accessibility
Enterprise Systems & Y2K
Google
Internet2/Net+ (founding)
Professionalization of the Higher Ed IT Field
Student-Centered Approaches (Design, Support)
Teaching & Learning Technologies

Wireless
Pervasive campus-wide wireless networking has enabled learning and services anywhere, anytime.

—THERESA ROWE
20 Years: EDUCAUSE & Higher Education IT

PART 2: TWO FOR THE FUTURE

What do you believe will be the biggest developments in the next twenty years?

It will be fascinating to see where we can go with augmented intelligence. We are only in the very beginning stages of understanding how AI can improve efficiency and reach otherwise underserved populations.

—SHARON BLANTON

The biggest development over the next twenty years will be the continued development of the role of AI in student success: student services, learning, and engagement.

—CELESTE SCHWARTZ

Learning analytics, machine learning/AI, and adaptive learning will continue to be great developments for higher ed IT in the next twenty years. With new capabilities to inform students of their individual progress, customize student paths to their goals, and target content to students when they need it, universities can focus their limited resources more effectively on the student experience and help our students achieve at the highest levels.

—MEGGAN LEVITT

I don’t know that there was a moment. I think one day each of us looked up and noticed that technology had enabled (and forced) a shift to a new, post–traditional learner and learning environment. Across the nation, at different moments, we each said: “Toto, I have a feeling we’re not in Kansas anymore.”

—COLLEEN CARMEAN

AI must be properly used for educational purposes. Keeping in mind that education is from humans for humans, we can teach machines to do some of our tasks.

—JORGE BETANCOURT

Artificial Intelligence & Machine Learning

HONORABLE MENTIONS
Adaptive Learning
Ad Revenue Subsidized Search
Commoditization of Technology
ELI (founding)
Integrated Classroom AV Equipment
Movable Furniture
Server Virtualization
Students as Citizen Scholars
User Control
Videoconferencing VR/AR

NON-MOMENTS
The most significant moments were not those that came to be but the ones that didn’t. We spent the better part of five years being certain that MOOCs were going to revolutionize the industry, not unlike the iPad presaged the demise of the laptop. We didn’t realize they were complementary. The same could be said for the gamification of education, specifically with badges.

—DAMIEN KOEMANS

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—COLLEEN CARMEAN

AI (and X reality) will continue the “personalization” of education, perhaps fragmenting learning to where the outcome is not a degree but a full understanding of a specific discipline.

—GREG KOVICH
Augmented reality (AR) and virtual reality (VR) will also continue to transform learning experiences. More “choose-you-own-adventure” style AR/VR content will provide new opportunities for students to empathize with people, places, and contexts they may never have the opportunity or capability to experience in person. Experiential learning will be enabled to reach new heights.

—MEGGAN LEVITT

We’re going to see a growth in the ability to offer students experiences they can’t get other than through virtual reality, augmented reality, and simulations. We have some really big issues to solve (e.g., accessibility by those with different physical abilities and the availability of quality content), but surely in the next twenty years, we’ll have those solved. (I hope!)

—ELIZABETH A. EVANS

The separation of the virtual classroom from the face-to-face classroom will become nonexistent over time. Immersive learning is in its infancy; the impact on student success will cause expansion and innovation of the technology.

—GEOFF CIRULLO

The use of virtual reality in teaching/learning will become ubiquitous. And we thought seeing was believing... ha! Immersion is not only believing, it’s the next-best thing to actually being there—and sometimes it’s even better.

—JOHN C. Cavanaugh

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**ADDITIONAL CONTENDERS**

Access; alternative credentials; analytics; blockchain; business model disruption; cloud services; data privacy; disaggregation; funding reductions; instructional models; internet of things; lifelong learning; mobile; nonacademic education; open education; pedagogical innovations; personalized learning; seamless connectivity; security; social media; wearable computing
The high-level impact of technological change will continue to be unpredictable and relentless. The biggest challenges that higher education IT will face in the future will be ones of leadership and management at all levels. Building high-performing teams and organizations that can effectively deal with technological change will be more important than the approach taken to IoT, ERP, LMS, or the latest technology. Global changes in the workforce, including increased diversity and generational changes, will require that IT organizations continue to evolve to be successful. Intra- and inter-institutional collaborations will be key to successfully navigating the next twenty years.

—DAVID SMALLEN
My hope is that we will finally start to pay attention to systems, not just tools. Systems involve process, data, roles, and tools. The intellectual innovation that emerges from the research enterprise in higher education dwarfs the administrative innovation across the higher ed landscape. How long will this be tolerated? If higher education does not begin to focus on serious improvements in the systems used to get its work done, the dire predictions offered by Clay Christensen in 2011 (and by others before and since) will prove true. Many will be surprised, wondering what happened, not having recognized the numerous indicators that have been in evidence for a long, long time.

—ERIC DENNA

Cultures take a long time to digest change. The next twenty years will be spent redefining education in the context of the modalities offered to us by the new tools, both physical and virtual, that the digital world affords us. We have not yet fully realized the potential of Claude Shannon’s vision of a digital information society for cultural reasons, not technological ones. Repositioning our institutions and decision-making structures around the implications of this shift will pose major challenges to industrial-based educational systems (as well as almost all other governmental, societal, and cultural organizations) at all levels.

—TOM HAYMES

The capacity of information services to reach anywhere, allowing all to pick and choose where they work and live, will have a huge impact on how communities are defined.

—SHARON P. PITT

Our future will see a shift from technologies as drivers to values as drivers for how we adopt and adapt 21st-century teaching and learning approaches.

—JENNIFER SPARROW
PART 3: FROM PAST TO FUTURE

What does our past mean for our future?

As George Santayana said, “Those who cannot remember the past are condemned to repeat it.”

—COLLEEN CARMEAN

Our past allows us to use experiences to shape our future. We often see large pendulum swings in technology, and that will likely continue as we use new and developing technologies to improve experiences and costs. Higher education itself will change, and we must prepare our faculty, staff, students, and leadership to move quickly and be prepared to deliver IT in this new environment.

—SUE WORKMAN

Cross-institutional collaborations will be important, since the pace of change will not slow down. Organizations will have to rapidly learn, test, and implement new technologies at a continued breakneck pace.

—JEFF BOHRER

Higher education institutions don’t change overnight, and education cannot be disrupted in the same way the consumer space can. Our institutions are literally hundreds of years old. We’ve changed, faster than we ever have, but not like the private sector. The support mechanisms for education adapt, but the fundamentals remain.

—DAMIEN KOEMANS

We must be masters of change and model what we preach, keeping our eye on the ball. The ball is the “business” of the institutions we serve: the faculty, the administration, the staff, and especially the students (our “product,” educationally)—and the general publics we serve.

—MARTY RINGLE

In the immortal words of Yogi Berra: “The future ain’t what it used to be.” Clearly, we are going to see radical examples of artificial intelligence, virtual reality, and augmented reality applied to higher education, as to every other aspect of life. But the biggest development is likely to come from a reconceptualization of “higher” education (facilitated by technology) rather than a revolution in technology itself. The relationships between the workforce, career options, credentialing, and educational institutions have been in flux for the past decade and, within the coming decade, will transform the landscape in unfamiliar ways. Inevitably, technology will play a pivotal role in this transformation. What this means for higher ed IT organizations remains to be seen. The only certainty is that they won’t look anything like today’s organizations. So brace yourself; it’s going to be a bumpy ride.

—DON RILEY

We should learn from the past and continue to evolve. IT changes on a daily basis, so we should get comfortable with that as the norm and not fight against it.

—NICK YOUNG

Our past allows us to use experiences to shape our future. We no longer know what is fake and what is real—whether it be text, audio, visual, or virtual reality. I am particularly concerned about our ability to discern visual imagery. The technology today, and what lies on the horizon, is so sophisticated that it is nearly impossible to decipher what is real and what is manipulated. We teach our students to read, but not to see, even though we live in a visually saturated world. As educators, we need to teach our students new literacies: how to comprehend visuals and how to communicate visually. As IT professionals, we need to provide services and invent tools that will help students sort through the moral and ethical issues of seeing while questioning whether to believe.

—SUSAN E. METROS

We will have to figure out a way to validate all of this readily available knowledge. We no longer know what is fake and what is real—whether it be text, audio, visual, or virtual reality. I am particularly concerned about our ability to discern visual imagery. The technology today, and what lies on the horizon, is so sophisticated that it is nearly impossible to decipher what is real and what is manipulated. We teach our students to read, but not to see, even though we live in a visually saturated world. As educators, we need to teach our students new literacies: how to comprehend visuals and how to communicate visually. As IT professionals, we need to provide services and invent tools that will help students sort through the moral and ethical issues of seeing while questioning whether to believe.

—SUSAN E. METROS
We must look back and notice just how much change has occurred in higher education (and IT specifically) in the past twenty years and understand that this rate of change not only will be maintained but will accelerate. We must continue to look for ways to adapt our thinking to changes in the landscape—technological, political, and pedagogical. What we must learn from the past is that change is going to happen, and fighting it can be done for only a short period before it overcomes us. Will we learn these lessons of our past? Will we be able to not only catch our breath from the pace of change but also set our keels deep for even rougher waters ahead? This is a question for us all to ponder. I hope the answer is yes, we will learn and we will be part of change, not part of trying to hold back the tide.

—BRIAN D. VOSS

The challenges of the past continue. We need to look at how we addressed those challenges and understand what worked and why.

—GREG KOVICH

The rate of change continues to accelerate. Understanding and leveraging the IT relationship with faculty, staff, and students will encourage and enable whatever changes are ahead.

—GEOFF CIRULLO

The past shapes our approach to current and future events. We interpret the current time and the future based on where we come from, and we establish expectations and goals based on previous realizations and patterns of development.

—JACOB E. LARSEN

The French have a saying: *Plus ca change, plus c’est la meme chose.* (“The more things change, the more they remain the same.”) Yes, every day the world of higher ed IT looks different from the day before. Yet many of the underlying objectives, methods, and principles embedded in the enterprise of applying technology to teaching, learning, and research remain the same. Understanding the evolution of technology in higher education is an invaluable asset to those change agents whose vision is focused squarely on the future. At the very least, knowledge of the past can help them avoid the mistakes made by their predecessors.

—MARTY RINGLE
The past provides us with perspective and trend data that helps us chart the path for the future. The hope is always that the past will aid in keeping us from making too many mistakes in the future, but I don’t think that promise has been realized. The challenges of the future will be different, more complex.

—SHARON BLANTON

Higher education institutions will be slow to cede our local independence to the formidable economic shift to digital scale on many common services. An economically driven market shakeout will thin the number of institutions by at least one-third by 2030, if not sooner. Internal intransigence that blocks innovation/adaptation will prove fatal for some institutions.

—BRAD WHEELER

Based on history, at some point we will likely pull back from the cloud and go on–premises again. But I hope not.

—MELINDA SAMPSON

IT has transformed from a campus core service to a cloud service based on departmental learning requirements. IT is no longer strategic as a division but becomes strategic as a service owned by departments.

—DOYLE NELSON FRISKNEY

Baby boomers are retiring, so much good data and knowledge will be lost.

—MARK REYNOLDS

The past can hold us back if we keep applying old ways of how people learn.

—AIMEE DENOYELLES

Knowledge, in its many forms, is omnipresent. We are globally connected. We are mobile. We are easily accessible. We have voices that can be heard far and wide. Yet the academy has been slow to accept a model in which technology serves as a conduit to support learning. We still question the benefits of online learning, we discourage students from bringing mobile devices to class, we require our students to invest in outdated print resources, and we test on knowledge that is obsolete. As educators, as stewards of knowledge, we need to take advantage of the inherent qualities that technology affords us. Our past should not define our future.

—SUSAN E. METROS

The past was marked by increasing debt, decreasing funding, and a sense of historical baggage—the “that is not the tradition of Whatsamatter U.” Higher education has also been made the scapegoat (education in general, actually) by well–funded special interests. We must find ways around these issues going forward.

—JIM PHELPS
The main lesson I draw from the past is that the initial implementation of technology is experienced as “all good.” But it does not take long for the dark side to emerge. The lesson from this for the future is that the sooner we reflect on the potential dark side from a new technology, the better we will be able to design and deploy that new technology. We must also temper our tendency to think that technology is anything more than a tool. Finally, just because we can design it and deploy it and use it does not automatically mean we should do any of that.

—JOHN C. CAWANAUGH

Our past serves a dual purpose. In the pessimistic view, it is an anchor that prevents us from progressing to the new. In the optimistic view, it is a teacher that prepares us for the changes ahead.

—CURT HILLEGAS

The past gives us the knowledge and skills to achieve great things in the future. It is through learning from our past failures and successes that we will be able to develop new ways of working and learning for the future.

—ELIZABETH COOK

Issues related to leadership and management of organizations have a long history. An organization’s ability to successfully adapt to unpredictable and rapid technological change is more about its organizational culture than the size of staff or budget. IT leaders need to become more knowledgeable about the challenges facing higher education in general to better shape their organizational development.

—DAVID SMALLEN

Innovation will continue in higher education, and technology will play a supporting role, with the ongoing challenge of process redesign and acceptance of change.

—CELESTE SCHWARTZ

Scripting and automation will allow for more time to innovate and create.

—IRMA HERMIDA

Everything will change. Some changes will be better than others, but overall there will be ongoing progress.

—THERESA ROWE

IT has a cyclical path. We must learn all that we can now, because the foundation for many innovations has been a process improvement on something that has evolved over decades.

—TERI ABBO
The past means everything and nothing for our future. There’s more work to do.

—STEVE JOHNSTON

Now more than ever, higher education institutions can’t go it alone. This is especially true for IT. From information security risk management to innovative teaching and learning methods, we need to work together and learn with each other.

—BARRON KORALESKY

We are a distinctive vertical, with the most urgent needs to collaborate between organizations in flexible ways. Those needs drove the original internet, internet identity, and the web, among others. Those needs to collaborate will continue to drive our innovation and its broader adoption.

—KEN KLINGENSTEIN

The establishment of organizations like EDUCAUSE gave voice to and fostered community among those whose work plays an increasingly fundamental role in support for, enablement of, and innovation in the core research and academic missions of our institutions. As we move into the future, both known and unknown, we should not lose sight of those important foundations. That is the source of the strength of EDUCAUSE and the institutions it serves.

—BOB FLYNN

The knowledge sharing and shared efforts in initiatives such as EDUCAUSE show that this is a consolidated way forward to achieve greater benefits with less effort.

—LLUÍS ALFONS ARIÑO

EDUCAUSE is still very much seen as a resource for IT employees, when in reality there are many rich opportunities within EDUCAUSE for those from the academic side of the house. EDUCAUSE must rebrand and reposition itself so that it appeals to both IT and academic staff and becomes more relevant to community colleges.

—MICHELLE PACANSKY-BROCK

The formative motto for EDUCAUSE was its continuing mission “to advance higher education by promoting the intelligent use of information technology.” For some, that may border on head-nodding cliché, but it will always be as fresh and energizing for IT professionals as when Brian Hawkins first rapped his metaphorical gavel in 1998.

—PETER DEBLOIS

Our past is a truly unique sense of purpose and community that will also be our foundation in the future. When we are stuck intellectually, we seek guidance and help from our colleagues. We don’t hesitate to reach out to people at other institutions to ask how they are doing something and to learn from our shared wisdom. Many of us are also part of systems, organizations, or consortiums (including EDUCAUSE) that help us to collaborate even more closely and openly. No matter what technology may come next, I am confident our strength as a sharing and open culture will guide us on how to make the technology work for higher education.

—MEGGAN LEVITT

A strong community investing in our profession’s future has been and will be vital to the growth and evolution of our profession.

—TIMOTHY CHESTER
The past should always teach us humility. Many visions of our glorious future have emerged since the beginnings of the digital revolution going back seventy years or more. Technology has often limited the realizations of these visions in the short term, but almost all of the technological hurdles have been overcome in the longer term. What is often missing in those visions is the capacity of human societies to change. That factor has fundamentally dictated the kind of present we now experience. We should not lose sight of this as we look forward to the next twenty years. The possibilities opened by digital technology are exploding at an exponential rate. However, the capacity of our societal institutions to keep up with that rate acts as a brake on change. As a result, technological proliferation is stunted, redirected, and transformed in unexpected ways as we adapt tools to suit our preconceptions of what “technology” means. Humans have been doing this for millennia, but never before at this rate. It remains to be seen how we adapt.

—TOM HAYMES

PART 4: REFLECTIONS

As you consider the past, present, and future of the higher ed IT field, do you have any other thoughts you’d like to share with our community?

Stay engaged.

—THERESA ROWE

Always have a plan/vision, and review that plan annually, because five years out is a moving target in technology. Also, implement and own your new technology decisions. Leverage and build on what exists while not being scared to restart—with a plan . . .

—GEOFF CIRULLO

Engage your peers. Listen. Dream with them about what’s possible.

—JENNIFER SPARROW

Stay on track. From my perspective, students want to cross the finish line. Stabilize student technology so that their technology roadmap is clear. Think about accessibility from the build so that the digital playing field is level from the beginning. Students will thank you for helping them complete their education in a timely manner.

—LAURIE VASQUEZ

Collaborate, share, build, inspire, lead.

—STEVE JOHNSTON

Continue to be excellent to each other. We are brighter, bolder, stronger, and more effective together.

—BOB FLYNN

The great strength of higher education in addressing social and economic challenges in a time of change is its commitment to intellectual inquiry and evidence-based conclusions. Buttressed by the enormous energy of successive generations of young minds, this gives a basis for optimism about the future.

—MIKE ROBERTS

We haven’t yet learned to balance workforce development with the values of liberal education, the uses of technology with the values of human interaction. I hope we can avoid glamorizing the bright, shiny technological things on increasingly short hype cycles and double down on our sacred mission: the creation, dissemination, and preservation of knowledge for the public good.

—DEBORAH KEYEK-FRANSSEN
Do what you do best. Do it better, do it cheaper, do it smarter, but don’t all chase the same thing. That is a downward spiral where everyone loses. We are in the business of education, not disruption, and our primary focus shouldn’t be chasing down the next big thing. We are the stabilizing force for civilization, and we should not lose sight of that.

—DAMIEN KOEMANS

If you are looking for the future of technology in higher education, look to the human, not the machine.

—TOM HAYMES

We must be highly proactive, and we must find ways to fund truly groundbreaking education and research. We need to form a unified marketing and outreach effort to push the great common-good contributions of higher education.

—JIM PHELPS

It is not just that our community is among the best and brightest. It is that we have the most difficult problems as well, and our worst-case engineering has served us, and the world, well.

—KEN KLINGENSTEIN

As a graduate student more than forty years ago, I taught a course on the ethics of technology to a group of (mostly) IBM software engineers. I went to great lengths to emphasize that the thrill of inventing new technologies needed to be tempered by an understanding of how those technologies might alter society and impact individuals. The engineers were intensely appreciative of the course and spoke frequently about the parallels between their work and the development of nuclear arms technology three decades before. They felt the weight of their responsibility to use their knowledge and skills to make the world a better place. Now, as we embark on the practical implementation of artificial intelligence (and tools like IBM’s Watson), the need to be mindful of the ethical implications of what we do—especially in education—is greater than ever. Let’s not screw it up.

—MARTY RINGLE

Higher ed IT leaders and IT organizations must be reliable, committed partners within their institutions. IT leaders must put a high priority on professional development for their staff. Organizations such as EDUCAUSE can be an important resource for these leaders.

—DAVID SMALLEN

The field of higher education IT will continue to be valued so long as IT staff are actively involved in supporting and improving processes that align with the institution’s strategic plan.

—CELESTE SCHWARTZ

Make sure we don’t lose the things that we most value.

—SHARON P. PITT

We need to be asking questions about who benefits and who doesn’t, who gets the best that technology has to offer in learning (e.g., tools that help students create) and who gets shunted off to the side (e.g., AI-driven drill-and-kill software).

—MARC LENTINI

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Do what you do best. Do it better, do it cheaper, do it smarter, but don’t all chase the same thing. That is a downward spiral where everyone loses. We are in the business of education, not disruption, and our primary focus shouldn’t be chasing down the next big thing. We are the stabilizing force for civilization, and we should not lose sight of that.

—DAMIEN KOEMANS

If you are looking for the future of technology in higher education, look to the human, not the machine.

—TOM HAYMES

We must be highly proactive, and we must find ways to fund truly groundbreaking education and research. We need to form a unified marketing and outreach effort to push the great common-good contributions of higher education.

—JIM PHELPS

It is not just that our community is among the best and brightest. It is that we have the most difficult problems as well, and our worst-case engineering has served us, and the world, well.

—KEN KLINGENSTEIN

Higher ed IT leaders and IT organizations must be reliable, committed partners within their institutions. IT leaders must put a high priority on professional development for their staff. Organizations such as EDUCAUSE can be an important resource for these leaders.

—DAVID SMALLEN

The field of higher education IT will continue to be valued so long as IT staff are actively involved in supporting and improving processes that align with the institution’s strategic plan.

—CELESTE SCHWARTZ

Make sure we don’t lose the things that we most value.

—SHARON P. PITT

We need to be asking questions about who benefits and who doesn’t, who gets the best that technology has to offer in learning (e.g., tools that help students create) and who gets shunted off to the side (e.g., AI-driven drill-and-kill software).

—MARC LENTINI

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—CELESTE SCHWARTZ
More than ever, higher education institutions need to attract and maintain the brightest minds in the field. We cannot afford to be relegated to “consumers” of various technologies that we must somehow adapt to the teaching and learning mission. We must seek to actively and forcefully impact the directions in which areas such as LMSs, VR, and mobile learning are moving. A governmental effort to support and enhance innovation in the educational IT area would be very welcome. Far too few ideas and products that originate from the higher ed environment get developed into commercial products and successes. If we want the right tools to support the best-possible learning in the future, we need more influence and control and support for bright, creative minds to develop these tools, rather than waiting until a private company sees a way to profit from developing them.

—JACOB E. LARSEN

We need to continue to think mobile-first in all that we do; however, we must do so with a responsibility as educators to continue to teach the importance and relevance of face-to-face communication skills and the power of the human connection.

—TERI ABBO

Our biggest challenge is to maintain the role of intermediaries between secondary education and the business sector, through digital transformation, integrating IT into the core of the business model.

—LLUÍS ALFONS ARIÑO

We are in this together, and we need to find new ways to share effective work in real time. Time moves too quickly now. Collaboration is happening in real time, not in yearly get-togethers.

—COLLEEN CARMEAN
The future is exciting and will continually evolve, but perhaps at an increased pace due to our technological advances (if we can keep up with them all!).

—ELIZABETH COOK

The days of stable technology are over. We need to be able to identity, evaluate, and deploy/use/support/recommend technology that has a much shorter shelf-life than what we might want.

—ELIZABETH A. EVANS

One thing we know about IT, including higher ed IT, is that it will change. We must prepare not only our technology environments for this change, but also our people. It is tremendously important that we continue professional development for our staff, teach our future leaders how to lead in a new environment, challenge our own thinking so that we do not resist change, and embrace the good to support our institutions and further education and learning for generations to come.

—SUE WORKMAN

Change has been, is, and always will be the nature of information technology. If we embrace change and help our institutions to leverage new capabilities, we will help them succeed into the future.

—CURT HILLEGAS

I remain concerned that campus senior leaders—presidents, their cabinets, and their governing boards—are not yet fully grasping what is happening around us and what will be in store for us. I fear that like dinosaurs, many will continue to eat and live in the moment and not adapt to changing conditions. Simply put, most campus leaders do not grasp the transformation under way, do not understand that it is IT-centric and IT-driven, and continue to view IT as some sort of luxury or extravagance rather than as a fundamental component of their future success (and survival). EDUCAUSE must go beyond gathering the IT clergy together and must reach outside of this audience to better engage those organizations that perform similar functions for the rest of institutional leadership. The message must get out to these leaders, and EDUCAUSE must play a bigger and stronger role in getting that message out.

—BRIAN D. VOSS

IT positions continue to evolve and require differing skill sets. I think the biggest thing we have learned is to never stop learning. The jobs will probably change, at an even faster pace. We must all get comfortable with change and become flexible with our work expectations.

—SHARON BLANTON

The best opportunities will continue to flow to those individuals who have the capacity and willingness to embrace change.

—TIMOTHY CHESTER
Years ago I was introduced to a quote by Eric Hoffer that has been as durable as it has become endearing: “In times of change learners inherit the earth, while the learned find themselves beautifully equipped to deal with a world that no longer exists.” To the extent we have become learners in higher education, I believe the future looks bright. Innovation expands opportunity, unless you are wed to the past. I have long been moved by Karl Fisch’s video “What If?” After listing a variety of what proved to be ignorant statements about various forms of emerging technologies, Fisch concludes: “What if . . . we’d listened?” I wonder if something I have said that argued for a limitation as to what would be possible will someday be included in Fisch’s presentation. My hope is we can be learners always, challenging ourselves to think differently about the systems we currently help to define, design, implement, maintain, improve, and retire.

—ERIC DENNA

CONCLUSION

Past
Google hatches. Jobs dent our world. Mobility flies, privacy dies.

Future
Time speeds, life forms blur. Madness is divinist sense. God is a fractal.

Past Informs Future
Ignoring the past dooms us, said George. Seek questions hidden by answers.

—BILL HOGUE