

6 Ed Tech Trends to Watch in 2020

This year's top issues in education technology reflect the bigger picture of a student's pathway from individual course all the way to graduation and career.

- By [Rhea Kelly](#) 02/13/20



Education technology goes beyond the classroom. Increasingly, the tech that supports teaching and learning must factor in the bigger picture of a student's entire pathway through college, from individual course all the way to graduation and handoff to a career. So when we talked to three higher education and technology leaders about the ed tech trends to watch this year, their responses reflected that broader view of what's important for today's students. From extended reality to predictive analytics and industry partnerships, here's what they told us about today's top issues in ed tech.

Our Panelists

Bridget Burns

Executive Director, [University Innovation Alliance](#)

James Frazee

Chief Academic Technology Officer and Associate Vice President, Instructional Technology Services, [San Diego State University](#)

Ernie Perez

Director, Educational Technology, Digital Learning & Innovation, [Boston University](#)

1) Workforce Readiness

Bridget Burns: I expect to see more colleges think about how data and technology can help to address the "communications gap" we face in the transition from college to careers. We need useful and effective solutions to help support colleges in their quest to communicate what their graduates know and can do. In an era of LinkedIn profiles and digital credentials, the analog transcript is a woefully

insufficient way to translate educational experiences into searchable workplace skills. I expect we'll see more institutions tap technologies like [digital badges](#) or even [virtual internships](#) to bridge the gap.

Ernie Perez: I think we need to keep a lookout for what is happening with the micro-credentialing space. For instance, recently edX announced that it would be offering [MicroBachelors](#) to help adult learners progress in their careers. This is on top of the many MicroMasters that already exist within edX and other similar platforms. These micro-credentials will be stackable and will have some university credits associated with them. As we look at workforce readiness, we will start to find learners looking for specific skills and for programs that fit their needs. We are no longer looking at students that are willing to spend four-plus years getting a bachelor's degree in an on-campus setting; rather, they are looking for just-in-time learning for the skills that are needed for the job or jobs that they have or aspire to get.

In addition, workforce readiness comes to play later on in life when learners are looking to get graduate degrees while holding down jobs, taking care of their families or staying at home. Online degrees are aplenty but what we will start seeing more of are affordable degrees at scale. For example, here at Boston University, we are offering an [online MBA program](#) starting in Fall 2020 that will cost \$24,000 all in.

2) Artificial Intelligence and Chatbots

Burns: I think we'll see more institutions adopt the use of chatbots to meet student expectations while also maximizing staff and faculty time. Through the University Innovation Alliance's early experimentation with chatbots, we're seeing chatbots as a way to reorient the university around customer (student) service. It's not so much the technology — although chatbots are helping automate basic tasks so advisers can focus more on students — but about what you do with it. We also think it's time for institutions to hold the IP we create, so our institutions are working to develop an open source database of common student questions and confusion that has been surfaced by the chatbots. Those insights are forcing new conversations about how we serve our students, and that holds tremendous promise.

3) Extended Reality

James Frazee: By the end of this decade we're going to wonder how we ever taught without eXtended Reality (XR)! Today, we're doing some groundbreaking work with our [Virtual Immersive Teaching and Learning](#) (VITaL) initiative at San Diego State University. For instance, early research studying the impact of XR on motivation to learn among our nursing students (Hauze, 2017) revealed that the use of the XR delivered via three-dimensional hologram resulted in higher student attention and greater satisfaction compared with delivery via two-dimensional video or written case study. In this study, the XR treatment was more effective than a comparable 2D video or written case in terms of commanding student attention. It also was better at presenting the content so that it was perceived as more relevant. Most of all, it enabled the students to build confidence in a risk-free setting, thereby providing a more satisfying learning experience. This is important to note because the study relied on beta hardware and alpha software, which can be considered primitive even by today's standards.

With XR hardware (including dramatic growth in wearable gear) and software maturing, and collaborative capabilities enabling more interactive activities that can get students engaging with the content and one another in more interdependent ways, it is clear that the future is bright for this

emerging technology. Further, XR technology has the potential to engage students with special needs such as vision-impaired students who can use today's 4K head-mounted displays to see content that they could never appreciate with their naked eyes. Also, with the rise of the fifth-generation (5G) mobile communication system, the number of new commercial services using XR are expected to grow — beginning with interactive sports viewing (e.g., imagine what's to come with the Tokyo Olympic Games in 2020) and travel experiences, and quickly expanding into dynamic educational applications with profound potential implications for K-12 and higher education. While there will be educational applications spanning the continuum from Art to Zoology, I am especially excited about the potential to help students visualize complex material in historically challenging domains such as calculus and organic chemistry.

Perez: XR is here to stay — whether we are looking at augmented reality (AR), virtual reality (VR) or mixed reality (MR), it is all around us. Educause has recently published an in-depth look at [XR for Teaching and Learning](#) that is timely. The Digital Learning & Innovation department at Boston University has seen an uptick in proposals that are wanting to use these technologies in the classroom. We have seed-funded several programs, including one with the Schools of Social Work and Medicine that will look at [Social Determinants of Health](#) to help teach both social workers and medical students empathy when dealing with patients. We are seeing the rise of mixed and virtual reality from folks in the Wheelock College of Education and Human Development looking at products like [Mursion](#) to help teach future educators how to handle everyday scenarios that may occur in the classroom.

As I have written in an [XR blog post](#), what we need are industry partners to help democratize the creation of content. We need to have tools to create content in a much easier way. Unless we make the creation of content easy and affordable, these technologies will never have a place outside of niche areas where big dollars can be spent.

4) Video and Accessibility

Fraze: As the use of instructional video grows, so does the challenge to make instructional video accessible. Course capture systems, in-video quizzing, interactive video transcripts, and platforms that promote social learning via video post sharing are examples of this growth.

With that in mind, I recommend the following areas to watch in 2020:

1. Audio descriptions are becoming more prevalent, with an increase of video players that allow for custom user preferences such as the ability to control the volume of video content or the audio descriptions independently.
2. Interactive video transcripts are becoming more widely used by faculty, staff and students for a wider range of purposes. Examples of this are [Zoom](#) transcripts, which could be used to document a virtual student group meeting.
3. Vendor integrations for captioning have become more frequent and more streamlined. For instance, [Mediasite](#)'s integration with [Automatic Sync Technologies](#) captioning services allows for more automated workflows and faster delivery of captioned video.

4. There has been an increase in "in situ" DIY methods for faculty and students to caption their own videos, especially when videos are shorter. An example is captioning video in [Canvas](#) via [Amara](#).
5. There's an increasing recognition that accessible videos are not only for the disabled and contain elements of Universal Design for Learning that help all students learn.

Perez: Accessibility and video needs are not going away. The sooner institutions have policies, procedures, and *budgets* associated with these needs, the better. More and more universities are under the microscope to ensure that all content is accessible to all segments of the population. This is not only because it's the law, but it should also be done because it is the right thing to do!

Most universities understand the requirements around captioning, which have been around for a long time. However, many folks do not understand audio descriptions, and 2020 will be the year that educational technologists need to dig in and learn about accessibility and all the intricacies that are associated with not only video but also the entire array of [accessible instructional materials](#).

5) Predictive Analytics and Advising

Perez: Analytics are no longer nice to have but a must-have. Institutions that are not using analytics that are learner-centric will be missing out. Data needs to be used from the student information system, the learning management system and any other third-party integrations to tell us the full story of what the students are or are not doing. We need to have data to make informed decisions. Without good data, we can't create models to look for predictive analytics. And we need predictive analytics to help retain students and help them graduate in a timely manner. Ed tech data is the holy grail in terms of helping students persist and graduate; we need to use the data as much as possible to help students succeed.

Fraze: Building upon increasingly accurate intelligence generated from students' learning management system and student information system data — with random forest, latent class analysis and other machine learning models continually yielding promising outcomes and compelling results — 2020 will mark the year that higher education learning analytics moves into the plateau of productivity.

Burns: In 2020, it'll no longer be a question of whether an institution is considering the use of predictive analytics to inform advising. Instead, questions will be about *how* data is being leveraged to transform your campus culture for the better. How an institution uses data determines their success. In 2020, every institution should know the top 10 indicators that a student is at risk for dropping out. If we know those indicators, we can begin to redesign our processes and intervene before it's too late.

We now know that campus decisions around the implementation of predictive analytics are more important than the vendor/platform itself. I hope we get to a place where campuses aren't blaming platforms for failing, and instead they understand that internal decisions about who leads, what information they have, how much institutional support they get, and the change management approach they utilize have way more to do with your likelihood of success than if you choose A, B, or C vendor.

6) Industry Partnerships

Fraze: To provide some context on industry partnerships and illustrate their value relative to promoting student success, take this example around predictive analytics.

Recognizing that grades ultimately predict grades, SDSU is now exploring additional variables which are giving way to a more holistic view of students' course-based experiences. The digital footprint from course engagement allows for what are proving to be early and accurate predictions of students' ultimate course performance trajectories. In other words, SDSU is moving beyond leveraging grades and points earned to inform student success interventions, and looking instead at students' behavior as a proxy for effort and motivation to learn at the course level

In 2018, SDSU partnered with [Pearson](#), and began to look specifically at students' engagement with MyStatLab homework assignments in a high-challenge introductory statistics class. Nearly 25 percent of the students in this undergraduate course receive a "repeatable" grade — a struggle that has persisted for years. Leveraging Pearson data generated by students' engagement with their statistics MyStatLab homework, San Diego State employed a new algorithm focusing specifically on the number of days between students' homework initiation and their due date.

Predictions of students' placement in one of four clusters — Early Compliant, Compliant, Late Compliant or Non-Compliant — were more than 50 percent accurate within the first two weeks of the course, using only the homework engagement data variable. Predictions from week nine reflected more than 85 percent accuracy. Further analysis of the relationship between the students' clusters and their final grades demonstrated that students in the Early Compliant and Compliant clusters were two times more likely to pass the class than those students who were in the Late Compliant and Non-Compliant clusters.

Discovering that early and accurate predictions of students' performance trajectories were possible without the use of demographic or grade data has allowed SDSU to view learning analytics and student success in an important and more equitable new light. Next steps include: strategic communications, course design implications and opportunities, and a more personalized way of helping SDSU students succeed before they begin to fail. This would not have been possible without partnering with a willing and capable industry leader, and unlocking the data previously held in this company's (eh, publisher's) black box.