



# EXPANDING EDUCATIONAL OPPORTUNITY

.....  
Student Engagement



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# FOREWORD

Blackboard understands that the way people learn is dynamic and that the education landscape is continuously evolving. Our mission is to partner with the global education community to enable student and institutional success, leveraging innovative technologies and services. And one of the things that technology can do is to help “Expand Educational Opportunity.”

Whether it is providing anytime / anywhere access to learning, expanding the availability of courses to all students regardless of location, fostering additional faculty and student engagement, enabling personalized learning, or making online learning more accessible to students with disabilities, Blackboard is at the forefront of working with institutions to provide technology and services that focus on the learner and improve student outcomes.

As a leader in enabling technology to help learners, educators, institutions and companies thrive in a complex and changing environment, we help our clients see the possibilities to come. We have the experience and expertise to make a positive difference throughout the world.

We’re proud to sponsor this eBook. We hope these essays help you open more doors for students and expand educational opportunity for everyone, wherever they are, whatever their needs, and however they learn.



Regards,  
**Katie Blot**  
Chief Strategy Officer

## Blackboard®

At Blackboard, we’re shaping the future of education with big ideas that are transforming the landscape. Every day we help millions of people around the world find new ways to learn, connect and advance. With innovative technologies and solutions we bring them closer to the knowledge they seek and the potential they can achieve. Blackboard is the leading provider of learner success-focused technology solutions and services to the education market. We help our clients overcome diverse and complex challenges through our broad portfolio of solutions and services that make education more accessible, engaging and relevant to the modern day learner.

# INTRODUCTION

We've spoken with 20 educational leaders to learn more about how institutions tap technology to improve education and make it available for all students, including those with differing abilities. We asked them the following question:

***Please share a specific story (or perspective) about how you or your institution used technology to provide greater access to students with specific needs (e.g., physical disability, location, or inability to get to campus.) What key piece of advice can you offer to someone else trying to implement your approach?***

A generous partnership with Blackboard makes it possible for us to share with you experiences that institutions have had implementing these technologies, how they've worked to overcome problems, and the outcomes they've seen from those efforts.

These experts offer their perspectives on challenges, successes, and lessons learned. They discuss everything from design and development strategies to the changing role of higher education and educators. Most of these professionals agree that when you expand availability to education by using accessible technology, whether it is video captioning, text to speech, or more advanced technologies, even students who don't identify as having disabilities use these services and that they increase student success rates and improve learning overall.

I trust you'll find these experts' successes and advice useful and that after reading this, you'll have solid strategies to help advance your use of technology to broaden access to education for all students.



All the best,  
**David Rogelberg**  
Publisher



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# Student Engagement

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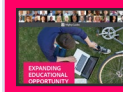
# CLASSROOM TECHNOLOGY SHOULD FACILITATE ACTIVE LEARNING



**THOMAS  
MURRAY**

**Director of Innovation,  
Future Ready Schools/Alliance  
for Excellent Education**

Tom Murray is the director of Innovation for Future Ready Schools, a project of the Alliance for Excellent Education. He has testified before the U.S. Congress and works alongside the U.S. Senate, the White House, and the U.S. Department of Education. Tom serves as a conference keynote speaker and was named one of "20 to Watch" by NSBA and Education Policy Person of the Year by the Academy of Arts and Sciences in 2015.



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Tom Murray believes that as ed tech spending increases, it's important to look at what actually works. "Institutions realize educational value when they apply technology for active learning rather than passive consumption or observation," he says. "When students can use technology to explore, design, and create, that's where the magic happens." Murray and his colleagues have observed that technology investments are absolutely worth the money in those cases because the metrics on learning growth demonstrate that learning is actually occurring. Murray calls that concept *return on instruction*.

One example of a truly authentic learning experience is the Hand Challenge, created by Dr. Chris Craft. For this project, his students started with the big question, What problem do you want to help solve? "In the course of the discussion, it came out that a lot of children around our country were missing limbs, either because they were born that way or because of other circumstances," Murray says. >>>



*When students can use technology to explore, design, and create, that's where the magic happens.*



## KEY LESSONS


- 1 Technology for the sake of technology does not achieve meaningful learning outcomes.
- 2 Educators must make learning their primary focus when selecting and implementing technology solutions.

# CLASSROOM TECHNOLOGY SHOULD FACILITATE ACTIVE LEARNING

“Dr. Craft’s students actually went through a design process to design hands for children who didn’t have them.” The class used an interdisciplinary STEAM approach—that is, science, technology, engineering, arts, and mathematics—in which they worked with art, science, and math.

That kind of incredible learning experience is very different from cases in which a district orders a three-dimensional (3-D) printer and everyone sits around watching something print for an hour, with no real learning taking place. “When it comes to technology, it is not the tool’s fault how it’s used,” says Murray. “It’s up to the educators to make it meaningful.” A Google Chromebook can be a digital worksheet storage hub, making little difference at all, or it can be a pathway to unleashing student genius. A 3-D printer can simply be an expensive way to print things that you can hold, or it can be a pathway to changing the life of a child on the other side of the country. It really comes down to that pedagogy piece and how the technology is used.

Accordingly, Murray feels that it’s imperative that school leaders and decision makers remain hyper-focused on the learning experience they desire. They should determine which technologies provide the best conduit to help achieve their goals, of course, but they must remain focused on the learning itself. His organization, Future Ready, offers educators and institutions the Future Ready framework, which offers districts free, research-based resources for implementing all this work so that they can begin implementing technology successfully. ■



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When it comes to  
technology, it is not the  
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# TECHNOLOGY TRAINING INCREASES ACCESS TO EDUCATION



**KEITH  
HOELL**

**Director of Online Education,  
Briarcliffe College**

Keith Hoell is the director of Online Education and associate professor at Briarcliffe College in Long Island, New York. He is also an adjunct lecturer at St. Joseph's College and Medgar Evers College of the City University of New York, teaching in environments that use various learning management systems. Keith is a published author with John Wiley and Sons, having written two Microsoft Official Academic Curriculum textbooks on database management.



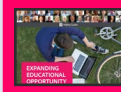
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Keith Hoell, director of Online Education for Briarcliffe College, not only works with fellow academic administrators to ensure academic oversight, but is also charged with ensuring technological access to all Briarcliffe's courses, both online and in the traditional brick-and-mortar ground classroom environments. "We run online classes for a mixed population, for both ground and completely online students. We have students who have disabilities. We have students who have never stepped foot in the state of New York before, where Briarcliffe College is located. We provide education to students outside the State and to those in other states who graduate from completely online programs for associate and bachelor's degrees. Then, we have students who live in New York State who also have never set foot on our campus."

"There are many reasons why students would be attending online," he continues. "A lot of it has to do with flexibility, especially if the student has a disability or may not be able to travel to the campus." Despite having access to education virtually, says Hoell, online learning should still be a worthwhile investment." >>>



*Engaging students is really important from a retention aspect and also helps drive students to take online classes. I don't think a student wants to take an online class just to post to a discussion board once a week.*



## KEY LESSONS

- 1 Academic rigor is broadened and accessibility to education made easier when technological requirements are the same across the institution, regardless of whether students take classes online or in a classroom.
- 2 One challenge of technology in higher education is ensuring that staff have basic troubleshooting skills to ensure that students can connect to courses and resources, regardless of the technology or equipment they use.



# TECHNOLOGY TRAINING INCREASES ACCESS TO EDUCATION

“We want to ensure a very full student body and a high level of academic rigor. The way we retain our students is through engagement, so for our online programs, besides requiring students to complete online weekly assignments, we also require them to attend a one-hour live lecture per week through a webinar environment.”

The webinar environment isn’t just for online classes, however. Hoell says that the College encourages even brick-and-mortar classes to use this feature as an additional resource to engage students. “It’s an audio/video interface that allows students to see the faculty and faculty to engage students by speaking directly to them. Faculty can still conduct a brick-and-mortar class if a class cannot meet due to extenuating circumstances, like inclement weather.”

Webinar environments aren’t the only technology necessary for accessibility. Hoell says that the technological requirements for accessibility reach across the Institution and are often used by all students. “We are accredited by The Middle States Commission for Higher Education, and as a necessary requirement for any education accreditation agency, we need to produce reports that help us assess the effectiveness of our technologies. Through those assessments, we’re seeing that we have better retention in those courses where we do accommodate accessibility. It’s also leading to student success.” Most importantly, Hoell says that broadening access helps engage students of all types. “Engaging students is really important from a retention aspect and also helps drive students to take online classes. I don’t think a student wants to take an online class just to post to a discussion board once a week.” >>>

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*The challenge is ensuring that we can transfer the same skill sets, assignments, and other resources that allow students to meet objectives for the ground classes to the online environment—to ensure that all objectives for the ground classes are met in the online environment.*

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# TECHNOLOGY TRAINING INCREASES ACCESS TO EDUCATION

Of course, increasing access to education does require doing things a bit differently. “Another separate challenge is ensuring that our assignments for our online courses meet the same objectives for the same courses that are offered on ground. We offer some of the same exact programs online as we do on ground—the same courses, the same requirements. The challenge is ensuring that we can transfer the same skill sets, assignments, and other resources that allow students to meet objectives for the ground classes to the online environment—to ensure that all objectives for the ground classes are met in the online environment. We have succeeded in that area by ensuring close faculty coordination and strong academic governance.”

Closed captioning technology and transcription is also used by the College to accommodate hearing impaired students during webinars. Hoell continues, “Another big challenge is ensuring that you have a strong training program for faculty so that they know exactly how to set up the intricate captioning technology and other elements to accommodate students with disabilities and so things don’t go awry when the course goes live.” To ensure that faculty are well trained, Hoell says that he and his team provides them with a sandboxed environment in which they can practice using the technology before it goes live. He also warns that institutionally sponsored technologies aren’t the only challenges. “Some of the technology to meet accommodations doesn’t always come from the school side but rather from the student side. It’s important that your staff and administrators be familiar with basic troubleshooting for how accessibility equipment connects to a computer. I think that basic technical training for instructors, staff, and student support personnel at your institution can help with troubleshooting some of those higher-level devices, like screen readers and braille display technology.” ■



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PATRICK MULLANE

Executive Director, HBX, Harvard Business School

# HOW LECTURE-CAPTURE TECHNOLOGY SUPPORTS STUDENT LEARNING



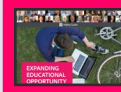
**LAUREN  
ERARDI**

Director of Academic  
Technology,  
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Lauren Erardi is the Director of Academic Technology at Quinnipiac University. She received her EdM in educational media and technology from Boston University and her BA in education and psychology from Middlebury College. Her professional responsibilities revolve around supporting, inspiring and collaborating with Quinnipiac faculty to integrate technology as a vital component of the teaching and learning process.



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Lauren Erardi believes that educational technology can help learners of all styles and abilities meaningfully engage with class content. She has pursued this mission in her role as director of Academic Technology at Quinnipiac University, which implemented a room-based lecture-capture solution to make learning opportunities accessible to all students. This technology, which allows faculty to record their lectures automatically so students in the class can play them back later, offers students powerful new opportunities to deepen their understanding of course material.

Of course, on-demand recordings of class lectures are convenient for students who miss class as it allows them to stay on track with the course content. But, Erardi notes, lecture-capture technology also caters to different learning styles. “Students who learn differently often benefit from re-watching the lecture recordings to make sure they didn’t miss anything,” she notes. Erardi has received overwhelmingly positive feedback from students who feel class content is now more approachable. >>>



*Students who learn differently often benefit from re-watching the lecture recordings to make sure they didn't miss anything.*



## KEY LESSONS

- 1 By making lecture recordings available on demand, educational institutions can better support learners of all styles and abilities.
- 2 Lecture-capture technology can help students master course material, prepare for an exam, and even participate in a class from overseas.



# HOW LECTURE-CAPTURE TECHNOLOGY SUPPORTS STUDENT LEARNING

Lecture-capture recordings can also be a helpful study aid come test time. Students can review and interact with the recordings by pausing, rewinding, and even speeding up the playback, if desired. The ability to revisit what they heard in class can help students gain a solid understanding of the course material in their own way, on their own time. Erardi believes this is especially true with areas of study like medicine, finance, and economics, in which students must understand complex or abstract concepts to master the subject matter.

Erardi says that the lecture-capture tool was especially helpful for a student in the law school who was in South Africa for a semester. "She wanted to take an elective class that was offered only once a year, and it happened to be scheduled during the semester she was abroad," Erardi explains. "Lecture capture made it possible for our student to participate in the class and engage with the content from overseas. The lecture-captures were streamed 'live' and the recordings were available on demand, so she didn't miss a beat, even though she was physically out of the country."

The goal of higher education and learning as a whole, Erardi believes, is to ensure that learning opportunities are available to everyone. "Ultimately, what makes me so excited about using video in the classroom is that it caters to learners with different learning needs, whether it's the physical ability to get to the classroom or just catering to how different people learn," she says. This is one way in which Erardi and her colleagues have been able to achieve their aim of making classes universally accessible to all learners and people with all abilities. ■

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*Lecture capture made it possible for our student to participate in the class and engage with the content from overseas.*

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# SCALE BEYOND BENCHMARKS TO ACHIEVE SUCCESS



**LARRY JOHNSON**  
CEO/Founder,  
EdFutures

Dr. Larry Johnson is an acknowledged expert on emerging technology and its impacts on society and education. He is the author of more than 175 papers and reports and has delivered 225 keynote addresses to distinguished groups and organizations all over the world. CEO and founder of EdFutures.org, past CEO of the New Media Consortium, he also founded the Horizon Project and directed it for 15 years. In 2015, he was named one of the "Top 50 Influencers of Education in the Asia/Pacific Region."



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Larry Johnson, founder and chief executive officer of EdFutures, is no stranger to technology challenges. As the founder of the Horizon Report for the New Media Consortium, he's seen how educators and institutions across the globe struggle with technology. "One of the things that I've been able to do because of my background and network is talk intelligently about how things are, and are not, different around the world," he says. "Increasingly, it's not the differences but the similarities that are important. As we become more focused on using technology, the issues and challenges become the same for all of us."

"One thing I see changing, with tremendous influence, is how people learn informally and how they learn through their devices. Particularly, smartphones are an interesting phenomenon." Johnson notes that most of the developed world now has access to smartphones. "Everybody pretty much has access to the Internet and their favorite apps, whether they're into cooking or wine or science. It's all in the palm of their hand." >>>



*As we become more focused on using technology, the issues and challenges become the same for all of us.*



## KEY LESSONS

- 1 Institutions trying to determine where to start implementing technology to increase access and improve student success must be open to trying tools and reaching students on the channels they are already on. Begin with small programs and draw on best practices, benchmarks, and lessons learned.
- 2 Half the battle for increased access and success is the technology. The other half is determining how to scale small successes to reach larger populations.

# SCALE BEYOND BENCHMARKS TO ACHIEVE SUCCESS

The challenge, says Johnson, is that the option to learn any subject from any location has created a fundamental shift in the access to education. "Schools and universities haven't really found a way to be in that space the same way that Google is or that social media are. We're just beginning to see what that means because it doesn't always mean people learning the right things." What Johnson means is that far too often, people are learning, but they're learning wrong or inaccurate information, which can be challenging to universities trying to educate toward a benchmark such as a degree or certification.

The problem, Johnson believes, is how educational content is created. "I don't really see formal education in the space of delivery outside basic web pages or learning management systems. They're all pretty much mobile friendly and have responsive design and all that," he explains. "But if you can't get to class and you're looking to learn online, it's a different experience. I think people do find success with it, and they're able to balance their busy lives and work and family, but it's a different experience. In delivering learning, we've come a pretty good distance, particularly with the kinds of services that expand access and connect people with different abilities to the tools they need to be productive. I think we've got a long way to go, however, to make access mean success in education." >>

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*The short answer to 'how should institutions be using technology to increase access to education' is 'every way they can.'*

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# SCALE BEYOND BENCHMARKS TO ACHIEVE SUCCESS

"There are no real panaceas out there," Johnson says. "The short answer to 'how should institutions be using technology to increase access to education' is 'every way they can.'" Higher education must be open to trying all sorts of tools and reaching students on the channels they're on. For example, Johnson says that universities that are good at social media tend to use it to support programs or activities, but they haven't necessarily figured out how to integrate social media into formal learning activities. "That's kind of an obvious area because people love social media. But we need to be in that space, and we need to be effective at it. We can't look like we're trying to do what we've always done."

Universities are seeing success with increasing access to education and creating successful elements of online education programs, Johnson acknowledges. Usually, however, those are small programs targeted at a specific segment of the population. "The whole 'solving the issue of how do you scale a good idea in education' is very, very tough," he says. "George H. W. Bush called these successes *points of light*. Something we've been trying to do for a long time is figure out how to make those points more visible." Replicating those programs has turned out to be impossible. I think we need to be realistic about what best practices can do. We need to take that next step and say, 'All right, now that we've got these benchmarks, how do we make progress in our own institution?' There must be a realistic understanding that the challenge is large. We have quite a few solutions, models, and exemplars that we could use. How do we build on those successes, even if they're moderate? What we do know is that it's just very hard to scale those successes." ■



Due to many factors it has become increasingly difficult for students to attend college fairs or visit campus to learn about their postsecondary options. This is particularly true for first-generation and under-represented students. Virtual college fairs on CollegeWeekLive provide a free, easy opportunity for students, parents, and educators around the world to learn about colleges and universities from any internet-connected device. CollegeWeekLive has partnered with AVID, a global nonprofit which works with under-represented students, to coordinate a virtual college fair each semester for AVID elective students. During the three events so far, over 35,000 students have logged in to chat with college and university admissions counselors.



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## CHARLIE BAIN

Manager of College Partnerships, CollegeWeekLive

# TECH GUIDES PATHWAYS FOR STUDENT SUCCESS



## MARTHA KANTER

Executive Director of the  
College Promise Campaign and  
Senior Fellow, NYU; former U.S.  
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Martha Kanter leads the College Promise Campaign, a national nonpartisan initiative to increase college access, affordability, quality, and completion in American higher education. She specializes in policy efforts to identify and apply innovative, evidence-based interventions; financing models; and behavioral incentives at the local, state, and national levels to raise high school and college graduation rates across the country.



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Martha Kanter, executive director of the College Promise Campaign and a senior fellow at New York University's Steinhardt Institute of Higher Education Policy, says that three of the most important questions for institutions implementing technology applications are: 1) Who is being educated? 2) Who is on track? and 3) Who is dropping out or left out? These questions, she says, "Are tied back to the rules that are put in place when you craft a tech-based system and use a multitude of applications and analytics. Technology-based vendors must work closely with experts on campus to ask, 'Where do we want students to go next?'" That process, according to Kanter, is one that should start well before students come to campus.

"Every College Promise program we talked to across 190 communities and states is leveraging the use of technology to increase access for students - whether through social media, text messaging students about the opportunities, or through course management systems." »»



*The best outreach efforts help students understand that we want them to go to college. That outreach helps to build confidence and college aspirations, especially for students who may not think it's possible.*



## KEY LESSONS

- 1 Improving student success in secondary education begins with communicating to students of all abilities that there are options for the future and providing the technological resources needed for those students to prepare for that future.
- 2 Three key questions for institutions to ask before implementing technology applications are: 1) Who is being educated? 2) Who is on track? and 3) Who is left out?




# TECH GUIDES PATHWAYS FOR STUDENT SUCCESS

Kanter says communication with students, faculty and tech leaders at all levels of education is key. Students need to understand that college is an option, and if they want to go, there is a pipeline they can access to help them make informed choices about which college or university is best for them.

To communicate effectively, Kanter points out that institutions are, “Using accessible technologies to increase their outreach directly to students. The best outreach efforts help students understand that we want them to go to college. That outreach helps to build confidence and college aspirations, especially for students who may not think it’s possible.”

This outreach includes students who face a variety of challenges. Kanter explains that a wide range of diverse students have the potential to succeed in college. For example, Kanter says that more than 10 percent of students have disabilities, more than half of students are from low-income families, many are the first in their family to seek a college education, and many are from underrepresented populations (e.g., undocumented students, veterans, etc.).

“Technology is a great pathway to reach these special populations for whom more education is critical for success in the 21st century,” she says. “We need to really think through the use of the technology and tools needed for these students because they’re going to require different approaches and customized, personalized pathways that are targeted at getting them to the next level.” 

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*Think through the technology goals with your institutional research and evaluation plan from the beginning. Design the educational strategy with technologies that enable student success.*

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# TECH GUIDES PATHWAYS FOR STUDENT SUCCESS

Kanter says one of the greatest challenges institutions face is how they can serve everyone. “Universities are going to use middleware or their own software, or they are going to buy a platform,” she explains. “You have to think about how the technologies can be used to achieve the intended results. You also have to consider the unintended consequences of potentially creating *more* barriers.”

This is where Kanter suggests that it is necessary to come back to the three questions she laid out. “Think through the technology goals with your institutional research and evaluation plan from the beginning. Design the educational strategy with technologies that enable student success.” That means starting with the question, “Who are you educating?” and then follow that with the question, “How do they access your educational opportunities?”

“What is the pathway to student success from a technological standpoint?” Kanter asks. “What’s the technology infrastructure that will increase student support and academic success? Is the delivery of courses and services fully online? Is it blended? Is it face to face? What technologies (hardware and software applications) will keep students persisting until they complete their certificate or degree? What does the research tell us? Where’s the evidence?” Asking these questions up front will help universities avoid systems that create what Kanter calls the “dead-end or revolving-door” by keeping student success in the forefront when deciding what’s next with technology. ■

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