





Mighty Guides

EXPANDING EDUCATIONAL OPPORTUNITY

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.



Mighty Guides make you stronger.

These authoritative and diverse guides provide a full view of a topic. They help you explore, compare, and contrast a variety of viewpoints so that you can determine what will work best for you. Reading a Mighty Guide is kind of like having your own team of experts. Each heartfelt and sincere piece of advice in this guide sits right next to the contributor's name, biography, and links so that you can learn more about their work. This background information gives you the proper context for each expert's independent perspective.

Credible advice from top experts helps you make strong decisions. Strong decisions make you mighty.



All the best, **David Rogelberg** Publisher

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AGILE PRINCIPLES IN EDUCATIONAL TECHNOLOGY



DAVE BOLMAN Provost, University of Advancing Technology

Provost Bolman has focused his career upon addressing the profound need within Arizona and the nation for a substantial and diverse creative class workforce. As its long standing provost Dr. Bolman has built the University of Advancing Technology (UAT) into a unique all-STEM institution that marries the best of traditional small private college learning with the genetics of innovation that come with agile technology organizations.





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"Think about how much technology has changed education," says Dave Bolman, provost at the University of Advancing Technology (UAT). "What I think is exciting is that the first wave of the technology change led to online learning, and online learning was a separate space. That was a toe in the water to getting people to accept that there are different styles of learning, but key pieces were missing because these courses weren't engaging." Technology has shifted in terms of accessible education, according to Bolman. "It's melting away so that learning spaces can be physical, face to face, real-time online, group, or asynchronous. It turns into a mélange of students being able to choose the kind of learning style that works for them in any single class."



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KEY LESSONS

- The first phase of building access to education was getting learning online. Organizations should now focus on using technology to reach students wherever they are, regardless of their physical proximity to an institution.
- Don't try to overthink
 educational access. Start with something small that will yield immediate results, and then use feedback from users to build deeper, wider solutions that meet their specific needs.

AGILE PRINCIPLES IN EDUCATIONAL TECHNOLOGY

Bolman points to students who have mobility, visual, or auditory challenges. "You don't have to sacrifice meaningful interaction with your instructors or peers because we can do it in the live stream. We can do it in many ways. Pick your path—there are more choices than people realize. The technology has brought the barriers down." The pick-your-path philosophy works for students as well, Bolman says. "The platforms themselves are designed so that students can get their information and participate in learning in five or six ways based on their learning style and even their life needs."

In fact, Bolman says, "The platforms are driving a shift that's mirroring what's going on in the world. What's happening is that—at the college level—education isn't just about giving students the knowledge they need to be workforce ready, ticking off those 40 classes they have to complete to earn their degree. It's also about embracing certain behaviors so that they're doing the things they're going to do at work. Because students have the option to be present physically, the barrier for students with disabilities has largely been lowered."

At UAT, technological advances in learning permeate the entire institution, whether students are physically present or attending virtually. For example, all students are required to build an IT project every semester as part of their final grade, and students who aren't physically on the UAT campus have access to the same design studios as those who are. "They are operating at the highest levels, routinely creating and evaluating those creations against the benchmark, 'Is this something somebody would actually want to use.' Technology made that happen. The fact that technology isn't something exclusive or difficult means that students leave a bachelor's degree program with behaviors associated with master's degree programs."

The fact that technology isn't something exclusive or difficult means that students leave a bachelor's degree program with behaviors associated with master's degree programs. The key to putting these programs in place, says Bolman, is to "follow the Agile approaches that software developers are using. Don't try to overengineer things at the beginning because by the time you get to the end, you will probably miss what people actually want. Instead, do the simplest thing you can first. See how people use it, and then build based on how people use the technology."

Bolman says that using Agile principles can help institutions shorten the development cycle and implementation plan. He's often asked how schools can keep up with the rapidly changing pace of technology. "Part of the answer is, don't treat this like we're in Detroit manufacturing cars. Treat this like we are a small, Agile software company."

The other aspect, according to Bolman, is listening to the feedback after users get involved. "If you do, you quickly find which things people don't actually care about. You have less waste than if you engineer something, and then try to shoehorn an entire culture into it 18 or 24 months down the road. We have the tools in front of us right now to make the change. You just have to get good at figuring out how to take advantage of them."

WHEN MOVING EDUCATION ONLINE, THINK TEACHING, NOT TOOLS



STEVEN D'AGUSTINO Director of Online Learning, Fordham University

Steven D'Agustino holds a doctorate in Education Leadership Administration and Policy and is the director of Online Learning at Fordham University. He is the editor of several books, most recently *Creating Teacher Immediacy* on Online Learning Environments. His other publications include Toward a Course Conversion Model for Distance Learning and Providing Innovative Opportunities and Options Through Online Credit Recovery and Afterschool Programs. He has written several grants to give historically underserved populations access to technology.





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For Steven D'Agustino, coordinating the online learning strategy at Fordham University has been as much about spirited conversations as it has been about technology implementation. Many of those conversations have been on topics like the changing role of instructors and the growing importance of design in education. Although these discussions have broad implications for the future of online learning, they have already had a positive impact on certain specific situations.

"When we're looking at replicating what happens in the traditional classroom setting in an online environment, we're making a lot of assumptions about the effectiveness of instruction in traditional settings, which is a faulty assumption," says D'Agustino. "What the online environment gives us is an opportunity to rethink these basic assumptions about teaching and learning."



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KEY LESSONS

- When moving instruction online, it is critical not to lose the value of academic conversations, which are often spontaneous, that take place between students or between student and instructor.
- The model of the teacher
 being the expert, imparting knowledge, is shifting to one similar to a docent or curator, guiding students, providing feedback, encouragement, and assessment.

"Something I've been thinking about a lot lately is what's called *instructor immediacy*," he says. "This is the sense that the instructor in the online environment emerges as an actual person. In a traditional setting, a student comes to class, where the more educated person tells them things. Now, with access to all of human knowledge in my telephone, it's not about accessing information—that's somewhat been destabilized. A decentering has occurred because of this democratization of access to information." What's lacking are the humanistic touches that traditionally come from direct instructor-to-student and student-to-student communications, which, he says, are an essential part of learning at a Jesuit institution.

A good example at Fordham is how some faculty are using traditional digital tools in new ways, such as an English professor who is helping students get more out of her commentaries on essays. Instead of making typical written comments in a Microsoft Word document, this professor is reviewing papers by using screen-capture software so that her audio comments play alongside her markups and provide a more holistic experience for her students—one that is much more like being in the room with the instructor as he or she goes through the essay. This technique has proven more engaging and ultimately more satisfying to both student and instructor, giving students the opportunity to watch the instructor use her expertise, modelling intellectual skills.

"It is central to view disciplines as activities, not as distinct sets of facts and theories," says D'Agustino. "Biology, Law, Economics are activities. We do them. A helpful way to think of this is to replace Philosophy with Swimming as the subject. How would a student learn how to swim? Not by studying the history and theories of swimming (although these may eventually emerge as important) but by being in the water."

With access to all of human knowledge in my telephone, it's not about accessing information that's somewhat been destabilized. A decentering has occurred because of this democratization of access to information. Not all faculty have embraced these creative techniques, however, and D'Agustino is often changing minds about the role instructors play in the classroom, not all of which translate well to online situations. "When I work with faculty, helping them put their class online," says D'Agustino. "They often say, 'I'm going to need a video camera and a microphone and a green screen and you're going to record me, right?' Because in a general sense, they still see themselves at the center of instruction. There's this talking-head approach in which 'I'm just going to say stuff, you're going to record me, and then we're going to put that online.' Essentially equating teaching with telling."

Consequently, says D'Agustino, instructors know that they need to occupy a new space, but they don't have a clear sense of what that space is. For D'Agustino, that new role may be more comparable to a docent or curator—someone who deploys their disciplinary expertise to curate content, arranges that content in a virtual space and guides the student, providing context and personal interaction. "A theologian, a philosopher, a historian, a medievalist, and an English professor might all read the same text," he says, "but the key is that they see very different things when they look at it."

So, from a technology standpoint, D'Agustino prefers applications and services that promote interaction, although he cautions that that such tools and services don't need to be expensive or complex. In addition to the creative use of screen-capture software some faculty members are deploying, options are emerging in the form of asynchronous discussion tools—the merger of a discussion tool and a presentation tool that allows students to post audio, video, or text-based comments on a chunk of content, such as a series of slides or images, a video—anything. "it's a simple way to create a kind of learning community," says D'Agustino.

We are in a transition period, says D'Agustino, where ad hoc use of tools is still commonplace, though not always advisedly. "One thing I'm struggling with a lot," says D'Agustino, "is retrofitting tools that aren't designed for teaching. I go to many conferences, and there's always someone presenting sessions like, 'Teaching with Twitter' and 'Facebook in the Classroom.' These are really neat things, but Twitter is not an instructional tool. It could be used as an instructional tool, sure, but I could use my wrench as a hammer, too."

"People have been learning things for a long time," says D'Agustino, "so we need to center this conversation on effective instructional practices, not in the realm of technology." Applying a simple technique such as the English professor's expanded use of existing screen-capture software demonstrates that the student-teacher relationship can still be personal, even when the two are not physically together in the classroom.

Amy Craton started working on her degree over 50 years ago, but life got in the way. At 94 years old, she set out to complete her degree program. She tried to attend classes at the local community college, but her hearing was deteriorating and she found it difficult to keep up. Online classes and materials helped Amy complete her degree at her own pace and from the comfort of her home.





PAULJ. LEBLANC President, Southern New Hampshire University



ANYTIME, ANYWHERE LEARNING AND THE VALUE OF SYNCHRONICITY



JOHN VIVOLO Director of Online and Virtual Learning, New York University

John Vivolo is director of Online and Virtual Learning for New York University (NYU). He partners with faculty to devise pedagogical and technical practices known as *best practices for online learning*. Working to create interactive learning experiences, John also researches new methods and technologies to incorporate into online learning. In addition, he coordinates efforts to scale up online learning at NYU and manages a team of instructional designers and technologists to help faculty create next-generation online learning.



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In more than 13 years of specializing in online education, John Vivolo has seen great advances in the design, delivery, and technology associated with remote learning. He still struggles with a few issues, though. One is the balance between the obvious advantages that time-shifting courses provides to working students versus the proven benefits of direct studentto-teacher and student-to-student interaction. Another is that format and technology issues still matter, perhaps even more now that mobile devices are for many students around the world a primary point of access.

"We've seen data indicating that international students prefer that we output our modules (individual lectures) into HTML5 so that they work on mobile devices because often these students view their lectures on those small screens," says Vivolo. "Many more students are gravitating toward mobile devices, as well, so we make sure that we build mobilefriendliness into our classes—at least our newer classes. It's a little harder with the older classes that weren't developed with that sort of software."



We've seen data indicating that international students prefer that we output our modules (individual lectures) into HTML5 so that they work on mobile devices because often these students view their lectures on those small screens.

KEY LESSONS

Even when providing ondemand classes that suit a student's schedule, there should be online office hours, discussion groups, or other ways to encourage student-to-teacher and student-to-student interactions.

2 Faculty are the subject matter experts, but they may benefit from help from instructional designers and technical personnel to design courses. In addition, although bandwidth has generally improved, New York University (NYU) serves a global cadre of students and so must consider that online connectivity may be poor in certain geographies or communities, making any sort of webinar-style class difficult at best and near impossible if you try to hold live discussions or interactive study sessions.

As for the problem of synchronicity among students and faculty, NYU has some recent experience in that area. For many years, NYU took part in a program called *Live Virtual Learning*, which had classes going online at specific times using very high-quality audio and video and which encouraged interactions similar to what might happen in a classroom. "The system that we were using," says Vivolo, "was delivering clear, high-quality video, and the students were able to communicate directly with the other students and the faculty with low-latency, so it wouldn't be much of a delay. There would actually be this great collaboration between the remote students and the oncampus students in a live classroom environment."

Demands for schedule flexibility and the difficulty of producing such a high-quality online experience brought about an end to this program, however, and most classes are now prerecorded and can be delivered at the student's convenience. So, Vivolo and others at NYU have developed specific guidelines for instructors that encourage some interactivity, but the bulk of the course work is done at the student's convenience.

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Faculty are always the content experts, but the actual person who records video, records audio, creates content, and writes everything is increasingly the instructional designer. All this places a burden on faculty, many of whom have been trained exclusively in traditional classroom-based methods. "Technologically, we have to be able to see what works best to curate the best learning environment and the greatest ease of use," says Vivolo. "Many schools still rely on faculty as the primary actual physical developers of course content, not just the content experts. Faculty are always the content experts, but the actual person who records video, records audio, creates content, and writes everything is increasingly the instructional designer."

"Here at NYU, we've tried to take the burden of the technology away from the faculty and say, 'Listen, we'll do this stuff for you. You want a piece of animation for your class? Just scribble on a piece of paper what you want, give us notes, record a video in our studio, and we'll build that for you so you don't have to worry about that.' Some faculty are very interested in doing things themselves, and we help them with technology. For many aspects of online course creation, however, there is a high learning curve, so faculty can become bogged down in how hard it is to actually do these things."

TAP THE CLOUD TO EXPAND EDUCATION FOR EVERYONE



ALAN GREENBERG Senior Analyst and Partner, Wainhouse Research

Alan D. Greenberg leads Wainhouse Research Learning and Talent Technologies practice, where he covers technologies used for distance and online education and e-learning. He has published reports, white papers, and research notes on many collaborative technologies and consulted on many statewide networks, consortia, and universities. He was a U.S. Distance Learning Association 2010 Outstanding Leadership Award Winner and holds an M.A. from the University of Texas at Austin and a B.A. from Hampshire College.



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"The idea of delivering education to people who are remote or don't have access to the same resources as those in other areas is not new," says Alan Greenberg, a research analyst and partner at Wainhouse Research. "Twenty-five years ago, every single state had some type of high-speed network that was running educational and other content from universities and colleges to schools, government, and institutions. Now, the world has evolved so that you don't have to have satellite or super-expensive distance learning classrooms to actually reach people."

Greenberg says several factors have intersected to bring education to the place it is today. "One is the consumerization of technologies, including educational technologies." For example, Greenberg points to the various device platforms, applications, and availability. "That's created an opportunity to extend reach beyond just distance learning. You're now thinking, 'How can I customize? How can I address specialized learning needs and the different approaches that learners have toward learning?"



It's imperative that schools trust the cloud or hosted services because they don't have the people power to run technology and they don't want to go through all these constant refreshes.

KEY LESSONS

Technology evolves at such a rapid rate that most institutions struggle to maintain current versions of applications. Cloud technologies reduce this burden by handling updates and upgrades without disruption to users.

 Successful technology
 implementations require thorough planning, stakeholder buy-in, and outside assistance to ensure that you're not only tapping into the most useful features of an application but also that the implementation is one that users will adopt.

TAP THE CLOUD TO EXPAND EDUCATION FOR EVERYONE

The result is that institutions are using technology differently not only to address access to education but also to improve education for students on campus and off. "Technology is hitting its stride in terms of helping educators address the needs of local and remote learners," Greenberg says.

"As technology has become ubiquitous and more accessible to teachers and learners alike, it's no longer about serving students on the other side of the state or the country. It's now how we are serving everybody." Greenberg points to a project he orchestrated with the University of Wyoming several years ago. "The university is based in Laramie and is the only four-year institution in the state. It discovered that more than 40 percent of the enrollments in its Outreach School consisted of local, Laramie-based students who just wanted the convenience and fun of taking an online course. The university was trying to scale its programs and figure out how to create a business model that made sense because it hadn't planned for that level of local access for its programs."

To help build on the technologies currently available, Greenberg points to the cloud as an enabler. "Schools have started to realize that the technology refresh rate has decreased. What used to be a 10-year technology refresh rate is probably now down to two or three years. It's imperative that schools trust the cloud or hosted services because they don't have the people power to run technology and they don't want to go through all these constant refreshes."

On the one hand, you've got to move quickly because things are moving quickly; on the other hand, you've got to take the time to do it right.

"The single biggest issue is that a lot of schools don't understand or may not be as effective as they could be in introducing, adopting, and deploying educational technologies," Greenberg says. "For instance, everybody is focusing on analytics and predictive analytics. They know they ought to be able to use data more effectively, but the options are overwhelming. Right now, data may reside in many different locations: They don't know how to pull the data together. They don't know how to make data effective in terms of turning them into information that can influence how you mentor students, how you teach students, how you help students find jobs, how you intervene when necessary. I think that's the next big challenge for colleges and universities: How do they use analytics intelligently?"

Greenberg's best advice is this: "Plan as much as possible, involve as many stakeholders as possible, and yes, use a consultant. Draw on other educators, other institutions, other best practices. Try to find out what's been effective, then adapt it to your own culture. On the one hand, you've got to move quickly because things are moving quickly; on the other hand, you've got to take the time to do it right."

I use Moodle and Blackboard Collaborate to provide students across Virginia with opportunities to learn in a virtual educational setting. In a virtual learning environment, I am able to provide a more student-centered approach to best meet the learning preferences and needs of my students. To ensure student success, I provide a wide range of multimedia resources in formats organized visually in a color-coded Symbaloo webmix. Accessibility features are also provided to further support my visually and/or hearing impaired students.



CHRISTI COLLINS Teacher & Online Adjunct Instructor, Virginia Virtual Academy & The UVA WISE/CTE



INNOVATIVE ONLINE EDUCATION IMPROVES CLASSROOM EDUCATION



JOSEPH MONTCALMO Director of Academic Technology and Instructional

Design, The Peabody Institute of the Johns Hopkins University

Joseph Montcalmo has spent his career building, developing, and deploying educational content and collaborating with fellow educators. In his current role, he is involved in every aspect of academic technology, from online learning to classroom-based technology. He has created online learning business plans for multiple universities, has experience with learning space design, and is an online adjunct faculty member. Joseph has presented on such topics as effective collaboration, academic technology, and approaches to successful leadership.





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The Peabody Institute, part of the Johns Hopkins University, is the oldest conservatory in the United States. "There's so much knowledge here, and the faculty have so much to share," says Joseph Montcalmo, director of Academic Technology and Instructional Design at Peabody. "The only limitation on how much students can get out of the university is that they have to come to one of our campuses to learn, both for one-on-one lessons with instruments and for classwork."

To help overcome this limitation, Montcalmo's approach to designing online learning is first to determine the needs of the student, and then to build courses to fulfill those needs. For example, Montcalmo says that one of the many areas, or *buckets*, his team focuses on is remedial education for international students. "What we've come to realize," he says, "is that these students really need an online course that introduces them to what the United States is like and what Baltimore is like—how to open a bank account, how to get a cup of coffee, how to pay your rent, what taxes mean. We want to get such things out of the way so that they can focus on music when they get here. These students also may not have a mastery of the English language, so we have to address that need at the same time."

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We need to chunk learning into smaller pieces and figure out how to intersperse activities and reading and things that will keep the brains of these really smart students engaged.

KEY LESSONS

- Effective online learning courses must be created with specific goals in mind, but they don't have to adhere to what is considered traditional learning. Innovate online learning both by topic and by technology to satisfy specific needs.
- Broadening education first requires the understanding that increased access to education will necessarily change the way educators think about presenting learning materials to students in physical and virtual classrooms.

Cloud-based technology plays an important role in the courses Montcalmo is developing. "We are putting streaming technologies into classrooms so that we can stream concerts, rehearsals, and master classes. Also, through an incentive grant, the dean put out some money for faculty and students to come up with innovative projects. One such project was to reach prospective students and outside constituents through a 360-degree video that shows experiences around the university, letting people feel like what it's like to be here." The result, when it's complete, will be full immersion for distance and potential students in a classroom using 360-degree video and a mobile device.

Of course, technical innovation isn't easy. Montcalmo explains, "The faculty we've worked with to build our online course work so far have been able to figure out how to deliver what they know in the classroom in new ways so that they can deliver it online. That doesn't mean that it's not a challenge to figure out how to get faculty up to speed quickly enough that they can be proficient in developing effective online materials."

That's an important distinction. Montcalmo says it's essential to create online learning that isn't just an imitation of what already exists in the classroom. "There's an argument that even lecture-based education in the classroom is starting to erode. If you look online, it certainly is. Students have a shorter attention span. We need to chunk learning into smaller pieces and figure out how to intersperse activities and reading and things that will keep the brains of these really smart students engaged."

Online education is infectious in its need for organization and best practices, and that infectiousness ends up permeating all the education in an institution when it's done right. "Once faculty start thinking that way and building their online courses, it starts trickling back into their traditional teaching. A good portion of the faculty who have learned how to do online learning in a way that works for them and their students end up doing things like flipping the classroom, where they use more of their classroom time for discussion and push some of those lectures into chunked-up pieces online. They tell their students to watch those online pieces as homework before they come to class."

"Online education is infectious in its need for organization and best practices, and that infectiousness ends up permeating all the education in an institution when it's done right. With online education, you're forced to build all this stuff out before the class starts; you're forced to adhere to best practices in a way that you might not in a classroom, where you might be tempted to walk in and wing it a bit more."

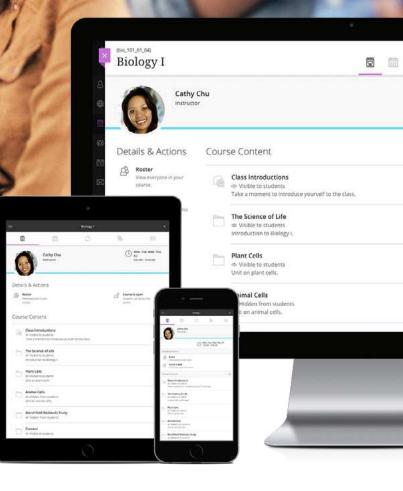
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