

Building the Future of Higher Education: Best Practices for Resilient Teaching



In 2018–19, professors Steven Waslander and Jonathan Kelly of the University of Toronto partnered with Coursera to create an online version of their self-driving cars curriculum. They worked with learning science specialists to apply “backwards design” principles—focusing on learning objectives first, assessments second, and instructional content third. Through the process, Waslander and Kelly also gained a new perspective on how to teach in person, not just online. They ended up with a more effective on-campus program and an [online program](#) with an average rating of 4.7 out of 5, based on almost 1,400 student reviews.

While online learning has played a role in higher education for many years, it’s existed alongside traditional teaching models. Before the COVID-19 crisis, faculty members had different comfort levels with digital learning technologies. In 2018, 44% of higher education instructors had taught an online course, and 38% had taught a blended learning course, according to a study by Inside Higher Ed and Gallup.¹ Then, the pandemic forced universities to move all their courses online. Faculty members rushed to convert their course materials to a remote learning format, abruptly accelerating the adoption of digital technologies.

Now, as faculty members augment existing content to prepare for the 2020–21 academic year and beyond, some of them have the opportunity—as Waslander and Kelly did—to apply best practices in instructional design, resulting in better learning experiences across all modalities. At the same time, colleges and universities are reassessing the roles they want to play in their local communities and in the global education market, as they experiment with models that could dramatically expand access to higher education. “The crisis has given us a push in the right direction,” said Rupamanjari Ghosh, Vice Chancellor of Shiv-Nadar University in India.²

Colleges and universities have a chance to redefine themselves as they adapt to—and help create—a new era of higher education. And they have the opportunity to benefit students and the world at large with flexible teaching models that are resilient against uncertainties while meeting rising student expectations for quality and value. The current economic climate has made students and their families even more value-conscious. It’s up to universities to show that their services are still a worthwhile investment—even if the delivery methods have changed.

This paper will describe the goals, attributes, and benefits of resilient teaching models. It will also share best practices to help faculty design resilient learning experiences that meet key learning objectives, engage students, and allow teachers to add value in new ways.

In the new era of higher education, resilient teaching models will:

- Adapt as needed to changing conditions
- Deliver high quality and value
- Serve a broader student population

Resilient teaching: Flexible, dynamic, and focused on outcomes

During the next phases of the pandemic, universities everywhere must be ready to shift to a fully online format at a moment's notice. Once the COVID-19 crisis ends, the need for agile teaching models will persist, since a future health or climate crisis could emerge at any time.

But resilient teaching is about more than just having the infrastructure in place to deliver course content online. Two higher education thought leaders, James DeVaney and Rebecca Quintana from the Center for Academic Innovation at the University of Michigan, started to define resilient teaching in an April 15 article published on the Inside Higher Ed blog.³

Then in mid-June, they launched a massive open online course on Coursera, providing a forum where educators can explore, refine, and begin to apply the concept of resilient teaching.

In essence, resilient teaching means each course is designed around a specific set of learning goals, with learning activities that help students advance toward those goals. The mix of activities may change over the course of a semester—and may even vary from one student to another—but students must be able to meet the goals in spite of fluctuating conditions and disruptions.

Duke University is using the term “flexible teaching”⁴ to describe its approach, which is meant to be student-centered, engaging, adaptive, and inclusive. Duke is planning for two scenarios: (1) teaching on campus with both remote and in-person students, and (2) teaching hybrid courses synchronously or asynchronously. In a blog article, Elise Mueller, a senior consultant on Duke’s Learning and Innovation team, wrote that faculty need to “re-conceive courses as a continuum of learning that happens online and in person.”⁴

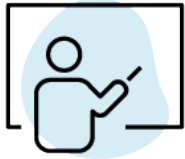
Blended (or hybrid) learning—an instructional design strategy that combines in-person instruction and asynchronous online content—is a core part of resilient teaching.



Resilient teaching is the ability to facilitate learning experiences that are designed to be adaptable to fluctuating conditions and disruptions. This teaching ability can be seen as an outcome of a design approach that attends to the relationship between learning goals and activities, and the environments they are situated in. Resilient teaching approaches take into account how a dynamic learning context may require new forms of interactions between teachers, students, content, and tools. Additionally, they necessitate the capacity to rethink the design of learning experiences based on a nuanced understanding of context.

Rebecca Quintana, Learning Experience Design Lead, University of Michigan
[Resilient Teaching through Times of Crisis and Change](#)

Some of the most common blended learning models are:



Flex:

Students work through online material on their own in a classroom, where teachers are available to provide support and instruction as needed.



A La Carte:

Students can choose to take some face-to-face courses and some fully online courses.



Flipped:

Students complete online coursework at home and then participate in discussion and guided practice during live sessions, which may be virtual or in person.

These emergent resilient teaching models use blended learning to give students more options and to mitigate the risk of current and future crises. Matthew Rascoff, Associate Vice Provost for Digital Education and Innovation at Duke University, said his institution is “understanding digital learning to be a strategic risk management asset, in ways that it was never seen before.”⁵ The most effective models also apply best practices in online education, engage and support students in creative ways, and empower teachers to have an even bigger impact.

Four tips for faculty: How to design resilient teaching models

1. Integrate mastery learning principles into each course and program.

Typically, during a traditional 15-week semester, some students will fully master the material and others won't. Mastery learning, a key pedagogical concept used in the best online learning programs, takes a more flexible approach with regard to time. The goal is for each student to master each topic before moving on to more advanced topics. Students progress through a learning cycle that includes instruction, practice, feedback, and then more instruction.



Also known as backwards design, mastery learning requires tight alignment along three critical and interrelated components:

Universities can begin to respond by:

- **Learning objectives:** What concepts do you want students to learn? What skills do you want them to gain? Use templates and rubrics to refine the approach.
- **Assessment:** How will you validate students' learning? Develop assessments that give them authentic practice to help them contextualize their learning.
- **Instruction:** What content do you need to deliver to achieve your desired learning objectives? Explore existing content before you decide what new content to build.

Mastery learning principles can also be applied to on-campus learning experiences, as we saw in the University of Toronto self-driving cars example. Waslander and Kelly's experience is far from unique. In 2018, 74% of faculty members who had taught online courses said the experience brought to light valuable strategies for increasing course quality and student engagement, even for their classroom teaching.⁶

In the mastery learning approach, assessments—ranging from quick questions to complex projects—are integrated into the learning process at every step. They're designed to provide hands-on practice, identify gaps in students' knowledge, and give students tailored feedback, directing them to content they need to review. Each assessment brings students closer to mastery of the topic. "It's a staircase, not a cliff," said Alexandra Urban, Senior Teaching and Learning Specialist at Coursera. "Make learning a gradual incline, so students can get there."⁷

**Practice with
feedback is central
to mastery learning**

2. Learn how to both author and curate high-quality online content.

Once you've determined what content you need for your learning objectives, think carefully about which pieces you want to build yourself. If there's existing content that meets your objectives, your energy might be better spent on engagement and assessment activities, rather than creating a whole new set of instructional materials.

Licensing online content, much like selecting the textbook for your course or articles for your course reader, is a great way to kickstart course design and development. In a higher education ecosystem where high-quality online content—sometimes called “courseware”—is available to license, you don't have to do everything on your own. In this new era, part of your job as a faculty member is to curate content from various sources to deliver the best possible information to students.

For example, over a three-week period in February 2020, Matthew Rascoff's team put together an online program on global epidemics for Duke Kunshan University, located in Wuhan, China. Since there wasn't time to build all the content from scratch, they included an existing [Introduction to Global Health](#) course developed by the University of Copenhagen, as well as a course titled [The Challenges of Global Health](#), created by Professor David Boyd at Duke's main campus.

The courseware model lets universities partner with other educational institutions that have complementary strengths. Many institutions are also using content from private-sector companies to help students acquire job-relevant skills. A good example of this is the [Google IT Support Professional Certificate](#) offered through Coursera.

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3. Focus on high-value teaching and mentoring activities.

In the new teaching models emerging from the COVID-19 crisis, great teachers are even more indispensable. As a faculty member, you'll be able to focus more on helping students make sense of the information, and less on preparing and presenting lectures. This means melding original and licensed content into a compelling learning sequence, including activities that help students analyze and apply what they're learning. This could take the form of active debate among students, encouraging critical thinking and original applications of the content to new topics and projects, for example. Overall, the most important part of the student experience will be the engagement layer you build around the course content.

“The faculty's role is moving up the value chain to adding more high-engagement activities, such as running discussions or doing custom assessments,” said Rascoff. For each course, faculty will need to figure out what that engagement looks like. “Is it office hours? Is it small groups? Is it a weekly discussion on Zoom? Or is it two weekly discussions on Zoom for different time zones? And is it an assessment layer that I want to build?”⁸

By adding thoughtfully designed live online events and discussion prompts, you can keep students engaged in a vibrant learning community. The engagement layer might also include multidisciplinary problem-solving activities, which help students hone their skills in real-life situations, and assessments that let them apply what they're learning within their local context. Even if the instructional content is globally relevant, you know best how that material will fit with your students' experiences and the challenges your country or region is facing.

Coursera offers private authoring solutions to solve for the new normal. You can combine public and private content and different modes of learning in a blended environment to deliver the content your learners need at scale. On the Coursera for Campus platform, you can use private authoring capabilities to build online courses, projects, and assessments exclusively for your own institution. The benefits of private authoring are that you can create your own content, scale knowledge, free up resources, and unlock blended synergies.



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Matthew Rascoff, Associate Vice Provost for Digital Education and Innovation, Duke University

4. Design learning experiences that are accessible to all students.

In planning for the future, universities need to make sure their virtual classrooms remain accessible to every student during a crisis. Many institutions will need to upgrade their software and hardware infrastructure. As part of that process, they should include alternate means of consuming content for students who don't have reliable connectivity. "The emergency remote experience didn't allow much time for this crucial accommodation, but long-term success will rely on it," said Denis Saulnier, Senior Manager, Teaching and Learning at Coursera.⁹

Beyond the need to ensure access to technology, institutions should be thinking about how to create and maintain inclusive learning communities. As a faculty member, try to structure live online classroom activities in ways that encourage broad participation by students from diverse backgrounds. Discussion forums are a good venue for engaging students who may need more time than a live class allows to craft their questions or responses.

The future of higher education: Student-centered, interactive, inclusive

As more robust models are created, the best learning experiences will represent a marriage between learning science and digital tools. Forward-thinking institutions will blend online and in-person activities in ways that make the most of each modality, and also give a head start to thoughtful online delivery should in-person classes become threatened again. These institutions will follow best practices for instructional design and apply insights from a large body of research that shows online learning can be just as effective as in-person learning—or even more so. The medium is less important than instructional design grounded in effective teaching methods.

Going forward, resilient teaching models will include live classroom sessions as well as on-demand content. These models will also carefully integrate features and services that support students, foster engagement, build community, and assess learning outcomes.

On-demand content will be used to efficiently transmit information to students, while live sessions will help them synthesize and interpret the information. Face-to-face classes will be meaningful discussions, not "sage on stage" lectures. The purpose of live online and on-campus sessions will be to help students develop critical thinking, problem-solving, and communication skills. Live online sessions will be highly interactive, including breakout room discussions, live discussion boards, and student presentations.

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In addition to building new teaching models, universities will need to make intentional choices about which markets they'll serve, how broad or specialized their course offerings will be, and how they'll participate in the global higher education ecosystem. “I think we're going to see a very different segmentation and stratification of institutions,” said Leah Belsky, Chief Enterprise Officer at Coursera. “And they're going to play different roles and functions than we're seeing now.”¹⁰

About Coursera

Coursera is a leading online learning platform for higher education, where 65+ million learners from around the world come to learn skills of the future. More than 200 of the world's top universities and industry educators partner with Coursera to offer courses, Specializations, certificates, and degree programs.



Learn how [Coursera for Campus](#) can help you create and scale online learning programs and bring world-class content to your students.

Sources

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