
Reimagining the Classroom, Enriching Content, and Expanding the Harvard Community
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Executive Summary

In March 2020, all teaching and learning at Harvard moved online, creating unique and unexpected challenges along with significant struggles and stress. This forced change also sparked a period of innovation, experiments, and new initiatives across Harvard’s classrooms and programs. Over the next 17 months, our students and faculty found new and impactful ways to connect, explore, and advance our collective intellectual efforts.

Now that we have restarted in-person teaching and learning across the university, what are the lessons of Covid-era remote teaching that might inform our future? The immediate lesson is that our residential community of students and researchers is precious and irreplaceable. Rebuilding that community after two years of disruption is an important and ongoing undertaking. At the same time, the pandemic forced all of us to use online education as a tool for learning and creating community. Are there aspects of remote teaching—things that not only shifted classroom teaching but also built on university-wide investments in the previous decade—that we might preserve or expand? What investments are appropriate going forward, and where should we plant deeper roots? How can we maintain the culture of innovation that characterized teaching and learning during that period? Ultimately, how can we make learning more engaging, impactful, and equitable for our students everywhere?

The Harvard Future of Teaching and Learning (FTL) task force was convened to examine these questions. In this report we draw together many lessons and solutions adopted during the height of the pandemic. We begin by identifying the infrastructure and expertise that made it possible for Harvard to swiftly and effectively pivot to online instruction. We then describe key innovations and the considerations of student needs that helped teaching and learning continue, and in some cases flourish, across schools and divisions. We conclude with concrete recommendations and a strategic roadmap for Harvard’s teaching and learning future and outline key enablers of that vision.

Our learnings from the pandemic experience underscore the importance of building on existing efforts and strategies across Harvard’s schools. Those efforts began long before 2020. Our investments in and experiences with asynchronous, synchronous, and hybrid offerings over the prior decade created essential foundations for the transition to remote teaching, as did our pre-pandemic lessons about active learning pedagogies, digital learning classrooms, and more. Now those learnings have been expanded by individual and collective innovations throughout the Harvard community. Together, these foundations and innovations give us new opportunities to advance teaching and learning within individual classrooms and at the program level by:

- **Reimagining the classroom:** incorporating the best of online into residential settings and adding a residential component to online programs, to more effectively serve students in a changing educational environment, and to shape considerations of what’s possible

- **Enriching content:** creating a unified, coherent strategy for short-form digital content and learning experiences in a way that leverages the accumulated faculty experience with such formats, enhances residential and online learning needs for students, and enables faculty to connect with all types of learners everywhere

- **Expanding the community:** creating a virtual Harvard campus experience that brings the richness of the Cambridge/Boston-based experience to learners everywhere, including those
who might never set foot on our physical campus and without restricting the size of the community.

A central principle underlying these opportunities is the need to **meet learners where they are** rather than be limited by place or space. Embracing this principle can yield a more learner-centered, innovative, and equitable experience.

**Blended Learning Experiences Can Make Learning More Interactive and Collaborative**

The idea of active learning is firmly planted in the mindsets of Harvard faculty and teaching staff partly as a result of their experience with digital tools during the pandemic. We can use that experience to enhance classroom learning. We can use digital tools and technologies to enhance the in-person experience and bring the world to the classroom and the classroom to the world.

Our faculty members want to seize this opportunity. In a recent survey, 82% expressed interest in adding tools and approaches from remote teaching to their in-person classes. They consistently cited features that enhance interactive learning (for example, chat rooms during discussions and lectures), boost collaborative and peer learning (breakout rooms and real-time collaborative workspaces), and expand expertise (having other faculty, alumni, and outside experts speak to students).

Beyond the individual faculty and classroom level, programs across Harvard afford opportunities to implement new blended-learning experiences by modifying aspects of our residential program and creating new degree and nondegree programs. Covid forced both types of programs to move entirely online, and we learned a great deal about relationship building, community creation, and equity and inclusion in addition to knowledge transfer. We must capitalize on all we have learned.

**Flexible Learning Experiences Can Make Learning More Inclusive and Global**

Higher education can now meet learners where they are. Digital tools let students learn through multiple modalities (in-person, online, or a mix) and allow faculty to develop content that can be used across multiple platforms and in multiple contexts.

Online higher education has traditionally focused on transferring content digitally—we might think of it as a PDF version of the in-person classroom—rather than on creating digital-first experiences that take advantage of features specific to digital content. Over more than a year of fully online teaching, faculty developed thousands of hours’ worth of short-form digital assets, and learned new ways of creating content digitally. This expertise, coupled with the creativity of our faculty and the diversity of these materials, now represents a unique and urgent opportunity.¹

As a world leader in higher education, Harvard can carve out a meaningful position in this space by creating and disseminating short-form digital content that is uniquely Harvard. A thoughtful and deliberate approach to digital short-form content also creates new opportunities for students who are eager to learn from our world-class faculty but may never be able to access traditional residential courses or move to Cambridge or Boston for a full-length residential program.

There are many opportunities generated by digital teaching and learning that we outline in detail later in the report. These include, for example, simultaneous multi-person interactions, and the

¹ Consider this fact: The number of consumers of short-form, modular content through channels such as YouTube, MasterClass, and LinkedIn is orders of magnitude greater than the number of learners in full-length courses.
benefits of bridging space and time. These opportunities provide the basis for a new Harvard global campus and a strategy for expanding our impact around the world.

Key to fulfilling those aspirations will be enhancing our teaching and learning infrastructure: creating asynchronous platforms and synchronous virtual classrooms that build on Harvard’s best-in-class innovations in this arena and potentially upgrading our physical classroom infrastructure to create learning spaces for the future.

**Considerations**

As we explore our future-facing strategies, we must keep five things in mind.

**A focus on student needs and preferences.** As we develop actionable strategies, tailoring these to diverse student needs will be paramount. What one might envision for 18-year-old undergraduates is very different than what might be appropriate for older students with professional experience and clearer career goals. Similarly, students differ in their learning styles, levels of preparation, resources, and post-program learning opportunities. As Harvard continues to embrace an ever-broadening set of students to serve, we can take advantage of opportunities to better address these differences, vary policies according to learning needs and goals, and expand multiple forms of access.

**Faculty time and incentives.** Faculty time is the scarcest resource at Harvard. As we strive to meet learners where they are, we need to recognize and respect faculty considerations. That will involve clarifying and revising outside activities policies and creating appropriate incentives to engage in activities beyond normal residential teaching responsibilities.

**Coordination and partnerships to enable innovation at the faculty, program, school, and university-wide levels.** The experience of the past decade has shown how, where, and when central resources can facilitate collaboration, fuel large fixed investments, ensure access to infrastructure and resources, and align policies across our distinctly decentralized structure in a way that enables innovation.

**External partnerships.** Whereas residential teaching and learning has traditionally been a closed model, with nearly all activities and services occurring within the university, blended and online experiences require capabilities in dimensions such as marketing and technology. While some schools have built those capabilities, plans for digital-first innovations may require thoughtful partnering with third-party organizations in a way that complements our core activities around content creation, pedagogy, mentoring and advising, grading, and certification.

**The need to preserve and enhance “the Harvard experience.”** By this we mean the interactions and qualities that tie our students and faculty together inside and outside the classroom. This is what anchors the Harvard brand and attracts learners, faculty, resources, and partners. Harvard has been both agile and conservative, innovative and prudent in our teaching and learning before and during the pandemic. As we consider new digitally enabled opportunities, the need for that balance will increase. Done right, these new strategies can profoundly enhance the Harvard experience and brand as well.
I. Introduction and the Work of the Task Force

The forced experiment of remote teaching during Covid-19 created unprecedented challenges and opportunities. It was a period of innovation in our classrooms and programs. The question now becomes: How can Harvard identify, capture and sustain those aspects of the remote experience that can advance our in-person and digital teaching efforts going forward, even as we rebuild our residential community?

Teaching and learning at Harvard occurs in hundreds of classrooms led by thousands of faculty members. To get a full perspective on the lessons and innovations that can inform our teaching and learning in the future, the FTL task force—supported by President Larry Bacow and Provost Alan Garber and convened by Vice Provost for Advances in Learning Bharat Anand—brought together 17 Harvard educators and administrators, spanning 10 schools and divisions and including 13 faculty from a range of disciplines.\(^2\) During the spring and summer of 2021, the task force explored a range of questions and opportunities related to Harvard’s teaching and learning activities before and during the pandemic.

We had five main objectives: (1) to create a collective vision for the future of teaching and learning at Harvard that might serve as a blueprint for school and university leaders to craft appropriate strategies going forward (2) to efficiently surface and share information about schools’ remote-education experiences and to better assess the experiences of each (3) to identify interdependencies among potential future investments and policy considerations with cross-school impacts (for example, community interactions, expansion of hybrid degrees, nondegree alumni status considerations, and technology and physical space investments) (4) to identify ways to facilitate local innovation through school-level or university-wide collaboration or central coordination (such as by standardizing policies, technologies, or brand architecture) (5) to create a vision for the future that builds on the strengths of all of Harvard and ensures that the whole is considerably greater than the sum of the parts.

This report summarizes those deliberations and lays out a strategic roadmap for our teaching and learning future. Respecting Harvard’s decentralized structure, it offers key findings at individual, program, and university levels. Our lessons draw from our residential teaching experiences, accumulated over 375 years, along with the past decade of online learning experiences.

We view this moment as one of and for change. Covid-19 shifted our notions of what is possible. The experiences of 2020–2022 offer valuable lessons for how Harvard can make teaching and learning more learner-centered, innovative, and equitable. We present the ideas that follow to spark conversation, chart a future course, and inspire further innovation.

II. Foundations: Learnings from Harvard’s Pre-Pandemic Experience with Online Teaching and Learning

The shift to fully online in March 2020 was swift and disorienting. But Harvard’s ability to pivot mid-semester to remote teaching and learning along with the shape and form of remote teaching

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\(^2\) See Appendix A: Task Force Members and Appendix B: Task Force Charge.
during the 2020-2021 academic year were facilitated by nearly a decade of investment in online learning or/and other curricular changes already underway.³

Starting in 2011, Harvard built up considerable assets and capabilities around online teaching and learning. Roughly 300 faculty and staff across the university developed meaningful facility with online teaching and programs prior to the pandemic, and their experiences were critical in guiding the transition for each school and across the university, including how to engage online both synchronously and asynchronously.

Key examples of those pre-Covid investments and the resulting learnings and capabilities follow. (For more details, visit the case studies section of the Harvard FTL website.)

**A. EdX and MOOCs**

In 2012, Harvard University partnered with MIT to launch edX, an online platform aimed at expanding access to education worldwide, improving teaching and learning on campuses, and advancing teaching and learning through educational research. HarvardX courses are Massive Open Online Courses, or MOOCs, in which learner activity is self-directed and asynchronous. They can be audited for free, and an ID-verified certificate is available for a nominal fee.

Over the next decade, HarvardX anchored the development of online teaching capabilities, particularly around high-quality video production, instructional design, and learning platforms. HarvardX courses now include offerings from all the Harvard Schools, use a variety of pedagogical approaches, and command amongst the widest online reach of any higher education institution in the world.⁴

The experience also surfaced lessons about what does not make for effective, engaging online learning: long videos, “lift-and-shift” approaches⁵, and low interactivity. Those lessons were central for faculty shifting to a fully online format in 2020.

**B. Pre-Matriculation and Field-Advancing Programs**

The HarvardX project spurred several schools to make additional investments to provide learners outside Harvard’s boundaries with high-quality digital content. Over the next several years, they developed paid online offerings built on the learnings of HarvardX and featuring tailored content, more interactive pedagogy, different forms of interaction among peers and faculty, and other innovations. Those programs often focused on distinct audience segments: learners on a path to specific professions. They were typically 15 to 50 hours long and almost entirely asynchronous. Some could be taken for credit. Examples include:

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³ For example, Harvard Medical School had transitioned to a hybrid approach after its 2015 curriculum reform, where lectures were eliminated and replaced with short videos or other resources as preparatory work, and classroom time was then dedicated to interactive discussion. The new format greatly eased the subsequent transition to Zoom-based teaching resulting from COVID.

⁴ As of June 2021, 7.6 million learners from nearly 200 countries around the world had enrolled in more than 130 online HarvardX courses.

⁵ “Lift-and-shift” refers to the approach of transferring residential content online without tailoring or leveraging the online medium itself. A similar tendency was seen at the onset of the pandemic when, as one Harvard faculty member said, “the basic temptation was to take whatever we have and dump it all into Zoom.”
• **HBS Online (HBSO).** HBSO reimagined Harvard Business School’s case method approach for an online medium, with the goal of increasing “engagement at scale.” Key to achieving that goal were encouraging peer interaction and learning communities and creating a customized platform with cohort-based learning, deep social learning, and rich interactive-learning features. The first HBSO program, the Credential of Readiness (CORe), reached more than 9,000 learners in its first three years, roughly 70% of whom were early-career professionals who might later pursue an MBA or other advanced degree. CORe also attracted mid-career professionals, one-third of whom had master’s or terminal degrees in nonbusiness fields. A year after launch, CORe was opened to HBS’s MBA students as a pre-matriculation option, and roughly one-third of the matriculating class enrolled.

• **HMX.** Harvard Medical School launched HMX in 2015 to deliver pre-matriculation content to students contemplating health careers and potentially attending medical, nursing, or dental degree programs. HMX was designed to leverage the best approaches to online learning and an understanding of learning sciences to enable HMS faculty to teach in the online medium. HMX launched by establishing relationships with medical schools around the globe (that used its content in their pre-matriculation in preparation for and/or in support of their own curricula) and shortly thereafter added a direct-to-learner (B2C) and a corporate model. By 2020, HMX was used by tens of thousands of individuals. Having discovered that its content attracted learners in life sciences companies, HMX developed Pro series courses for biotech companies on topics including pharmacology and cancer genomics.

• **Zero-L.** Harvard Law School designed a series of pre-matriculation online materials in 2019 in partnership with HarvardX to orient incoming JD students to skills and approaches to help them succeed in law school. Like the HBSO and HMX programs, Zero-L incorporated and curated high-quality videos and short videos for greater engagement. Although Zero-L was designed for HLS students, it impacted JD students beyond HLS. During the pandemic, HLS decided to provide other law schools with free access to the course, resulting in impressive reach—roughly 200,000 students at more than 120 law schools—that underscored the importance of university-to-university partnerships in bringing Harvard’s online materials to learners everywhere.

• **Harvard Kennedy School Public Leadership Credential (PLC).** HKS faculty created the PLC to equip learners everywhere with skills and knowledge in public policy and leadership. The asynchronous curriculum spans three subjects, six courses, and 11 months. Graduates receive credit that can be used toward HKS’s mid-career master’s degree in public administration (MC/MPA).

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6 The CORe program comprises three courses: Business Analytics, Economics for Managers, and Financial Accounting.
7 These statistics exclude FY14 and FY15 learners, for whom career and education-level data are not available.
8 The HMX Fundamentals include Immunology, Physiology, Genetics, Pharmacology, and Biochemistry.
9 Topics included common law frameworks and institutions that incoming JD students should know (for example, how state and federal court systems are organized) and law school methods (how to read, analyze, and brief a case).
10 These are examples of “wholesale” strategies, in which Harvard partners with other institutions—universities, corporations, and nonprofits—and with individuals in those institutions and organizations by providing content that is integrated into their curricula by their faculty or learning experts and made accessible to their learners. These are important complementary approaches to the strategy of reaching learners directly, and we’ll discuss them later.
11 This is similar to other online trends, such as the micro-masters and micro-bachelors programs offered through edX.
Each of the asynchronous online offerings described here was led by Harvard faculty and schools using internal resources and leveraging either Harvard’s residential learning management system in use (Canvas) or partly and wholly owned platforms (HBS Online, edX\textsuperscript{12}, and open edX). That’s instead of relying largely on external platforms or on the strategy, increasingly employed by universities, of outsourcing to online program managers.\textsuperscript{13}

\textit{C. Executive Education}

In addition to building capabilities in asynchronous online content creation over the past decade, some Harvard schools gained substantial experience in delivering high-quality synchronous online programs. Most of those were executive education offerings. They had a broad range of price points and were designed to reach learners who would find it hard to come to Harvard. That experience proved valuable during the transition to remote teaching, as faculty members with it coached and helped their peers with Zoom-style teaching. Examples of pre-Covid synchronous offerings are described below.

- To give students the flexibility to attend in-person, live online, or on-demand, the Division of Continuing Education (DCE) created HELIX classrooms. HELIX displays remote students on large monitors, enabling real-time two-way communication. By training instructors to include all students seamlessly, DCE has increased both class size and student satisfaction, at fees often well below those of residential programs.

- The HBS Live Classroom was launched in 2015 by HBS Online as a real-time, multiscreen, interactive online classroom to enable synchronous learning for up to 60 (now 90) learners at once. Its programs had high engagement, learner-to-learner interactions through chat features, sometimes observers who could participate only through chat, and global reach. Its custom-built classrooms created learning experiences that were generally superior to Zoom, in large part because the environment had some features of a regular classroom (blackboards and the ability to walk around), producing similar energy and dynamism. Two new HBS Live classrooms, built just prior to the pandemic, launched in summer 2020 and were instrumental in moving HBS executive education programs online.

- The Harvard Graduate School of Education (HGSE) had over the years substantially expanded its on-campus, largely summertime offerings by creating online programs available throughout the year. Its Online Professional Development Programs ranged from workshops and certificate programs to “longer, virtual institutes featuring live webinars to accommodate many different learning preferences and schedules.” That has enabled HGSE to target senior leaders and administrators in targeted topic areas that complement and scale up its in-person programs.

- Hybrid programs include the Harvard School of Public Health’s hybrid degree program, launched in 2015, and the Harvard Business Analytics Program (HBAP), launched in 2018. These rely on synchronous Zoom classes, offline asynchronous materials and group projects,

\textsuperscript{12} In summer 2021, edX was sold to the online education company 2U and the proceeds were used to create a new non-profit organization focused on expanding equity and access in education.

\textsuperscript{13} Going forward, there may be certain areas in which we’ll rely on external vendors. We’ll return to this issue later.
and a few in-person immersions on the Harvard campus.\textsuperscript{14} Such programs were central in equipping faculty across Harvard with Zoom teaching experience prior to March 2020.

\textbf{D. Summary of Pre-Covid Learnings}

The experiences gained by Harvard Schools and faculty through asynchronous, synchronous, and hybrid offerings were vital in the 2020 transition to remote teaching. While some assets and platforms were less easily leveraged for use during the pandemic, the broad set of capabilities and experiences were invaluable. Other key learnings from the pre-pandemic experience, all resulting from intentional investments during the prior decade, center on:

- Active learning pedagogies and community creation in an online setting
- The difference between broad scale and deep engagement, the factors driving each, and strategies designed to relax this tradeoff
- The strength of the Harvard brand in attracting new learners
- Experience and success in achieving authentic, sustained engagement online even with dispersed learners and entirely asynchronous offerings
- An appreciation of the opportunity to expand Harvard’s teaching and learning impact in ways consistent with our mission and an understanding of associated challenges
- Experience with Zoom-style technologies and digital learning “classrooms,” built at Harvard, with enhanced features not available in Zoom
- Experience with a broad range of delivery mechanisms that reach learners outside Harvard’s boundaries, both directly and through partnerships
- Experience with financial considerations relating to online teaching and learning investments, particularly around nondegree programs

\textbf{III. Lessons from Experiences with Remote and Hybrid Education}

The basic story of Spring 2020 is agonizingly familiar. By March 16, halfway into the semester, every student, staff member, faculty member, and instructor had left campus, and every class had moved abruptly online. Despite everyone’s best efforts, faculty and students struggled as everyone confronted the uncertainties and dangers to life during a global pandemic. Anxiety and frustration mounted as lockdowns dragged on while professional, academic, and domestic obligations persisted. Faculty had to simultaneously teach, adapt to unfamiliar teaching tools, advance research, and care for children whose schools had closed. Students were faced with sudden returns to their homes, the cancellation of activities, and the seeming impossibility of furthering research in labs and field sites.

\textsuperscript{14} Jointly offered four times a year by HBS, SEAS, and FAS, the nine-month program has a price point comparable to those of executive and degree offerings of similar length. HBAP has enrolled more than 1,100 mid-career students to date, who have more than 20 years of work experience, on average.
Remote learning exacerbated certain inequities: Some students thrived in safe, comfortable contexts while others dealt with inadequate technology, complicated home environments, financial uncertainty, and time zone differences. Many nondegree programs were canceled.

As weeks stretched into more than a year, isolation and Zoom fatigue heightened the discomforts of an unsettling time. Students and faculty deeply missed interpersonal connections, spontaneous interactions with peers, and a sense of community. Schools wondered whether the pandemic would irrevocably damage Harvard’s teaching and learning.

From the start, those leaders, faculty, and staff with online teaching experience leaned spiritedly into supporting their colleagues across Harvard. Academic technology and learning centers quickly geared up powerful web-based resources and monitored bandwidth speeds. Within hours, schools and university-wide offices created sites and materials containing guidance for the thousands who had never imagined teaching or learning remotely. Colleagues sought advice.

“Everyone was much more willing to ask and share when we were all brought back to the same level of incompetence,” one program leader said.

As Schools, departments, faculty, and students scrambled to adjust to remote learning, many took note of what worked and what did not. The next section outlines key learnings at the individual faculty and course level, the program level, and the university level.

A. Individual Faculty and Course Level

Challenged to fundamentally rethink their teaching approaches in a new environment, many faculty stretched and strengthened as educators. Even in the chaotic early days of the pandemic, the Harvard community recognized that traditional approaches to teaching needed to change. Long lectures that were familiar in the residential classroom, or to which faculty and students had become accustomed, did not work well online.

In the process of familiarizing themselves with new tools, technologies, and instructional modalities, many faculty discovered not only what is possible online but also what can be better online. “I had always been a nonbeliever in online,” one faculty member said. “But the team aspect translated extremely well and helped maintain a sense of community. That gave me the courage to think about how I can change my teaching further and take advantage of what online offers.”

Another noted, “It seems like everything can be adapted in some way, shape, or form. All it takes is a positive attitude to transform a series of ideas into a thoughtful and informative learning experience.”

Three themes capture faculty perspectives on how online methods can make learning experiences better.

Increasing interactivity. In a Harvard-wide faculty survey in spring 2021, the most commonly cited benefits of digital teaching were synchronous tools such as chat, polls, and breakout rooms along with collaborative tools like Google Docs and Miro boards. These created new opportunities for interactive and peer-to-peer learning. Private and public chats let students get questions answered by peers and teaching assistants during lectures. Breakout rooms offered

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15 See, for example, the Office of the VPAL’s Teach Remotely and Learn Remotely and the Academic Resource Center’s Remote Learning.
advantages over the “turn to your partner” approach by randomizing peer interactions and instantly creating collaborative learning spaces. Faculty and students benefited from sharing their screens, co-creating documents, and drawing from rich libraries of digital media content. The common denominator was **simultaneous multiperson interaction**—something hard to achieve in an in-person classroom.

One faculty member recalled that “the chat function was fabulous in allowing para-conversations and reactions as well as the posting of questions—and sometimes answers—and references made in the discussion [to books, articles, artwork, and so on]. TFs could monitor the chat and answer questions that had quick answers, [which was] less disturbing to the flow of discussion, and everyone had access to the answer immediately.” Others noted that the “breakout function on Zoom made putting students into various-size groups for five- to 20-minute discussions much more efficient and effective” and that “shyer students spoke up more often.” Yet another commented on the increased intentionality around active learning: “The admonition to inject an activity at least every 10 minutes was helpful. Though we didn't always do that, we did use breakouts, Poll Everywhere, and other techniques frequently, and it kept everyone engaged. It brought discipline to the practice.”

**Bridging space.** Digital tools conferred the ability to “bring the world to our students, and our students to the world.” With one click, students could join conversations with peers from across the globe, connect with alumni and experts in their fields, and bring others into their learning communities irrespective of location.

Many Harvard courses took advantage of remote guest experts. The popular undergraduate Economics 10 course drew in an expanded list of speakers during spring 2020 that included a former chair of the Federal Reserve, two former Secretaries of the Treasury, two former chief economists at the IMF, a former chair of the Council of Economic Advisers, and a former chief economist at the U.S. Treasury Department. An HMS course featured the chief medical officer of the New York Public Health Department one day and a Rwanda-based global health expert the next. In other courses, students drew on examples from their doorsteps. A session on traffic capacity featured films of roadside intersections across the world rather than a field trip to Memorial Drive.\(^\text{16}\)

Online learning also expanded the universe of participants, drawing in students who could not physically bring their talent and ambition to Harvard. While this had been true of our online courses before the pandemic, we now reaped the same benefits in nondegree executive education programs and certain degree programs across Harvard: increased diversity and more-varied experiences among those enrolled.\(^\text{17}\)

**Increasing personalized learning opportunities.** These boosted both when and how students engaged with classroom content. Many faculty “flipped” their classrooms so that students could watch recorded lectures on foundational theories or concepts at their own pace and at a time of their choosing before class, creating more time for conversations during class itself. Some used digital tools to track students’ learning. Others explored new methods of assessing learning outcomes, jettisoning traditional time-constrained tests for more-flexible, holistic approaches that gave students greater agency on when, where, and how they were evaluated. One faculty member

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\(^{16}\) Mark Fagan (HKS), Teaching Innovations Gallery.

\(^{17}\) Later we summarize similar benefits seen in enrollments across Harvard’s non-degree and certain degree programs (see Program Innovations and Instructional Modes).
who embraced this approach reported “an increase in learning mastery, a reduction in student stress, and an increase in confidence”\textsuperscript{18} compared with outcomes for the same course before the pandemic.

Unsurprisingly, experiences varied. For some, remote teaching was a hardship with no silver lining. Some were reluctant to generalize about the efficacy of online teaching on the basis of an experience that was inextricably bound up in the context of the pandemic. And others changed their views completely. “Online engagement can be higher than in the physical classroom,” one faculty member said. “It’s hard to hide, and you have to be on the edge of your seat and involved.” Another commented, “In-person teaching is wonderful, but after teaching in the remote situation, it seems there are valid, efficient, and purposeful processes we should hold onto.”

Before the pandemic, many Harvard faculty viewed online teaching as an unfamiliar modality, probably inferior to in-person teaching and something they would never need to adopt. Yet within months all became conversant with remote teaching technologies and tools. That has profound implications for the future. Organizational change typically encounters many barriers, the most common being resistance stemming from inertial routines and fear of the unknown. Now that 100% of our faculty are now familiar with digital teaching, we are poised to have an informed, authentic conversation about future possibilities that might otherwise have taken years or decades.

\textbf{B. Hybrid Approaches}

Although most of Harvard’s residential programs switched to 100% remote teaching for AY2020–2021, some adopted hybrid models: synchronous teaching to a single class of students, some of whom were in the physical classroom and others of whom were at home on their laptops.\textsuperscript{19} HBS and HKS created hybrid classrooms by adding large screens, new technology infrastructure, and ventilation upgrades to existing rooms. Harvard College used the Division of Continuing Education’s (DCE) HELIX technology\textsuperscript{20} for some courses in established DCE rooms and in Faculty of Arts and Sciences (FAS) rooms with portable setups. (See Appendix C: Hybrid Classrooms for visuals.)

- The HBS and HKS hybrid classrooms contained multiple monitors, each showing up to 25 remote students. In-room students used their laptops to see and be seen. Although all students were on an equal footing, HKS found that participation was often more limited than in all-remote or all-residential classes. For instance, its hybrid classrooms had to operate multiple Zoom rooms: one for remote students, one for the in-person classroom, and one for the faculty. That required disabling several Zoom features, including chat, hand-raising, polling, and randomized breakout rooms.

- FAS designated 14 spring 2021 courses (mostly labs, studio art, performance, and other subjects in which online teaching is particularly challenging) for in-person learning, attended by roughly 200 undergraduates already on campus. The most flexible of those arrangements

\textsuperscript{18}Conversation with Eric Mazur (May 2021) about his experience teaching Applied Physics 50.

\textsuperscript{19}“Hybrid,” like “blended,” means different things to different people. For a more-extensive discussion of terminological and taxonomical inconsistencies, see McMurtrie 2021.

\textsuperscript{20}DCE was one of the first Harvard divisions to adopt a hybrid model, having identified remote learning as a strategic priority in the late 1990s. By 2007, it was offering its first blended programs via the HELIX classroom. By the end of 2019, DCE and other schools within Harvard were serving more than 50,000 learners in online course formats, with significant learner and faculty satisfaction. Degree programs have also been offered in online and hybrid formats, such as the HSCPH MPH EPI degree, which has operated in a low-residency format since its launch in 2015.
were the most effective.²¹ Portable technology was less vulnerable to hard-wired audio issues and let instructors rearrange their physical spaces—some held classes in tents. Residential students described the experience as “a bright spot in a gloomy semester.”

It’s tempting to draw conclusions about the efficacy of hybrid teaching by comparing the experiences of in-person and remote students (the in-person experience was generally better). But that can be misleading. For example, MBA students who were remote preferred hybrid to all-Zoom teaching, because they could vicariously experience some of the classroom’s dynamism. And experiences varied across programs. Most notably, hybrid learning was far more favorably received in the HBS MBA program than in HBS executive education.²² Some of the reasons are subtle: While MBA students took turns rotating in and out of the in-person classroom and had a common social experience outside of class, in-person executive education students remained as such throughout, leading to a much less favorable experience for remote learners.

It’s also tempting to draw conclusions by comparing the “typical” experience in different formats. That can be misleading too, not just because of the hazards of comparing averages but also because Harvard has had only a few years of online teaching experience and nearly four centuries of experience with in-person classes. We should learn from best-in-class approaches of each and consider how to create optimal, holistic experiences in any format.

Finally, investments and innovations in hybrid teaching before and during the pandemic, underscore that when students choose the format—when they are online by choice—online education can broaden access and inclusion while preserving the in-person experience for those able to attend. The key lesson of the pandemic is that we can thoughtfully and ambitiously use multiple formats in varying combinations to create new experiences for students at and beyond Harvard’s campus.

C. Program Innovations and Instructional Modes

The experiences of Harvard’s many programs during 2020–2021 have revealed numerous lessons about program structures, pedagogies for engagement and scale, inclusivity, and impact.

Nondegree programs: developing flexible structures. Many of Harvard’s Professional and Lifelong Learning (PLL) divisions struggled at the onset of the pandemic, as executive education programs were entirely canceled. “We fell off a cliff,” one program leader said, adding that soon, however, “the virtual parachute opened.” The response went beyond simply transferring programs online; it involved rethinking program delivery, design, and structure to take advantage of online learning.

At Harvard Law School, components of long open-enrollment executive education courses were turned into one-and-a-half- to two-day online master classes—long enough to ensure meaningful learning but short enough to attract a virtual audience. Harvard Kennedy School experimented with two models: Extended Engagement, in which the same material from the residential program was stretched over a longer calendar to accommodate learners’ work schedules; and Short Intensive, whose calendar mimicked a compressed in-person program but which had an expanded asynchronous component aimed at reducing Zoom time. Harvard Business School leveraged its

²¹ Rebecca Nesson, associate dean of the Harvard College Curriculum, FAS.
²² Luis Viceira, senior associate dean, HBS Executive Education and HBS Online.
HBS Live Classrooms, in use for several years by HBS Online, for executive education, shifting many flagship components to a virtual environment while preserving quality and engagement. In all cases, prices were adjusted, pedagogies revised, and new learners drawn in. Most PLL divisions found that their online programs attracted new learners and say that they are likely to continue them to expand access and allow learners to choose the format that suits them best.

**Nondegree programs: increased demand and new offerings.** The pandemic surfaced new opportunities for impactful learning at scale. This occurred through various means.

**Nondegree programs offered directly to learners:**

- **Expanded availability of online offerings.** In the first month of the pandemic, weekly enrollment in HarvardX courses jumped from 30,000 to 900,000—a 3,000% increase—before stabilizing at 60,000 to 90,000. While the growth was greatest for low-priced MOOCs, other offerings, including premium-priced Harvard Business School Online and Division of Continuing Education courses, saw meaningful increases too.

- **The creation of new offerings.** Some Harvard faculty and schools created entirely new certificate courses and programs. Some were designed for scale: Africa Live!-Entrepreneurship in Emerging Economies (often referred to as Africa Live!), taught by three Harvard FAS and HBS faculty, added live weekly Zoom classes to an asynchronous HarvardX course, attracting more than 700 African entrepreneurs. Its novel pedagogical design engaged a large group of students by relying on all three faculty to coteach each class while divvying up classroom responsibilities: One took primary responsibility for running the discussion, one for moderating live chat, one for controlling the virtual boards and other technologies.

**Nondegree partnerships with universities and corporations:**

Harvard teaching also impacted learners across the world through partnerships with other universities. Certain courses have been taught live to Harvard students and streamed simultaneously elsewhere. HarvardX worked with edX to make various asynchronous courses available free at more than 500 universities around the world, enrolling over 160,000 students. Harvard Law School made its Zero-L asynchronous program free to other law schools around the country; some 200,000 students at 120 law schools accessed it.

As organizations large and small rethought their training programs and learning strategies, the potential arose for **cascading learning experiences.** Virtual teaching made it possible to reach people who could not physically come to Harvard because of time, policy, or financial constraints. That has significant implications for workforce learning after the pandemic. For example, although senior-most executives continue to attend traditional in-person sessions, our digital platforms now allow for many layers of managers to attend remote synchronous sessions to economize on time.

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23 FAS’s Computer Science 50 (CS50) has experimented with live-streaming its Harvard classes to another university (Yale).

24 For Zero-L, see **Pre-Matriculation and Field-Advancing Programs**, above. Some years earlier, HBS initiated a similar pilot program with liberal arts colleges in Michigan whereby an online course from HBSO was intentionally embedded by the faculty of the partner colleges into their curriculum, with additional faculty instruction, mentoring, assessment, project work, and grading provided locally.
and cost, while large numbers of other staff benefit from entirely asynchronous materials. Combining delivery mechanisms in this way promises greater scale in learning, lower costs, and—perhaps most important—greater alignment of learnings across an organization. As “future of learning” strategies are being rethought everywhere, Harvard has enormous potential to address managerial and workforce reskilling needs through its faculty, online library, and state-of-art platforms.

**Degree programs.** One-year master’s programs were forced to go fully online for their duration. Harvard’s Graduate School of Education (HGSE) made a virtue of necessity by reopening admission to its one-year 2020–2021 M.Ed. program in the spring of 2021, seeking to attract students who would have been unable to attend in-person. Within five weeks it received 1.5 times as many applications as in a typical year—and they were more diverse in age, race, ethnicity, and professional experience. They reported higher program satisfaction than is usual. One HGSE leader commented, “They’re a better experience because they’re for those who chose to attend online.”

HGSE continues to track their experiences and career outcomes in order to inform long-term policy.

In the School of Public Health’s hybrid degree program—Harvard’s first such program, approved in 2014–2015—much of the curriculum was delivered virtually, with just a few on-campus modules. Data on applications and enrolled students, their performance, and their subsequent careers showed them to be largely similar to their in-person counterparts. By 2021–2022, many applicants to the hybrid program were more interested in the online mode.

**Engagement at scale.** It was long assumed that high-quality teaching must be in-person and in small groups. Online learning could achieve high scale, but at the cost of engagement—or so the thinking went. The experience with MOOCs at Harvard and elsewhere tended to reinforce that assumption. But recent experiences at Harvard both before and during the pandemic call it into question.

Numerous ways exist to scale education without compromising the learning experience—and perhaps enhancing it. They include pedagogical innovations that combine with interactive technologies (for example, Advanced Physics 50’s use of Perusall); co-teaching models (for example, Africa Live!); cohort-based approaches and peer learning (HBS Online); live virtual classrooms (HBS Live); classroom technologies that enable high-quality live-streamed experiences (CSS50); blended experiences that allow for continuous learning across the student-to-alumni lifecycle; partnerships that leverage comparative advantages (Harvard as a content provider to other universities and organizations); and cascading for impact through alignment (using different platforms to teach different populations within a given organization).

**D. Cross-School Opportunities**

The ability of learners to be “one click away” from anyone in the Harvard community facilitated new offerings, ways of interacting, and learning experiences. Those include interactions with alumni, guest speakers, and cross-school clubs and connections. Some schools leveraged modular content from one another. A few faculty taught “University courses” that enabled, for the first time, simple, simultaneous enrollment by students from every Harvard school. These courses were

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25 Matthew L. Miller, Senior Lecturer on Education and Associate Dean for Learning and Teaching (HGSE).
formally offered through FAS’s General Education program), and each enrolled significant numbers of non-GSAS graduate students from multiple schools, bringing wide-ranging perspectives to discussions.26

Harvard is, at its core, a decentralized institution where each school is primarily responsible for its own activities. But during the pandemic, faculty collaborated and drew on emerging best practices across schools. Central organizations such as the Office of the Vice Provost for Advances in Learning (VPAL); Harvard University Information Technology (HUIT); and the libraries and museums stepped up their support. They created teaching materials; led the integration of Zoom with Canvas; tracked student bandwidth; made central multimedia and instructional design resources available for large-enrollment courses; facilitated access to library materials; coordinated meetings of academic leaders to surface common challenges, share learnings and best practices, and identify areas for coordination; created Slack channels to facilitate communication across schools; addressed emerging policy questions;27 drafted white papers on new teaching and program possibilities; and tracked and reported on faculty learnings. Those centralized efforts strengthened local innovation.

We also learned that school strategies, complemented by central support, can accelerate university decision-making. Traditionally, “education policy decisions can take forever.”28 But during the pandemic academic leaders had to make real-time decisions every day and relied on university-wide offices to expedite and other schools to advise.

E. Summary of Lessons from the Pandemic

The pandemic was disruptive but not destructive to the learning experience at Harvard. Experiments at multiple levels along with pre-pandemic investments generated powerful lessons for our future.

Both technology and pedagogy matter. Digital technologies are important enablers of great teaching, but they’re not a silver bullet. Engaging, thoughtful pedagogy still matters. Having both in our arsenal means exciting possibilities: We can combine them in blended learning experiences, cascade them to create aligned learning, and tailor them for maximally engaging individual learning.

Content and community are vital. More than anything else, the pandemic experience highlighted the importance of community to the student experience. Although classroom discussions continued and knowledge mastery was realized, community beyond the classroom was often missing. Finding ways to preserve and elevate it must be a central consideration.

We must seek new paths to excellence with inclusion. It is clear that more talented learners want a Harvard experience than the campus can accommodate. The lessons outlined above offer compelling new models for inclusion and excellence and underscore that online learning at large

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26 The 2020–21 University courses were: GENED 1171 Justice: Ethics in an Age of Pandemic and Racial Reckoning; GENED 1094 Confronting Climate Change; and GENED 1068 The United States and China.

27 See HUIT, General Considerations for Recording and Saving Transcripts of Zoom Meetings, and Harvard Library, Copyright Considerations for the Harvard Community in Shifting Courses from In-Person to Online During the COVID-19 Crisis.

28 Edward Hundert, Daniel D. Federman, M.D. Professor in Residence of Global Health and Social Medicine and Medical Education and Dean for Medical Education (HMS).
scale is compatible with high engagement. Such a vision will require an adept mix of engaging pedagogy, intentional community, and appropriate platforms.

IV. Looking Forward: Implications, Principles, and Recommendations

What do the learnings from the pre-Covid and Covid-era remote teaching experiences imply for how Harvard can enhance the in-person learning experience for students on our campus, and enrich the online experience for learners unable to come to campus?

A range of opportunities present themselves. Many involve amplifying existing practices and programs. In addition, the task force proposes three new major strategic directions:

- **Reimagining the classroom** by incorporating the best of online into residential settings and bringing a residential component to online programs. Blended experiences can offer new ways of teaching, learning, and meeting student where they are. At their fullest, they represent a fundamental shift in mindset beyond the binary alternatives of entirely in-person or entirely online offerings and learning experiences.

- **Enriching content** by creating a new, unified Harvard strategy for short-form digital content and learning experiences. Historically, the unit of analysis for almost every Harvard residential degree program and online certificate offering was a roughly semester-long course. Short-form content represents an opportunity to create modular, impactful online learning experiences that can enrich in-class discussions for residential long-form courses and meaningfully expand the impact of Harvard’s teaching beyond our physical campus.

- **Expanding community** by creating a new virtual Harvard experience that brings the richness of the Cambridge/Boston-based campus experience to learners everywhere, without restrictions on the size of the community. Developing a digitally empowered global community can reorient learning toward connections, community, and relationships—the fundamentals of the residential Harvard experience—and allow Harvard to redefine its role in expanding global access to quality education.

The three strategic directions interact and reinforce one another in various ways. But for simplicity’s sake, we’ll first focus on them separately.

Throughout, the objectives and underlying principles are similar. While for each strategic direction we propose concrete ideas about how to proceed, we also propose some basic principles to anchor all of Harvard’s future efforts around teaching and learning.

A. Design Principles

- Harvard will seek to offer teaching and learning experiences that are “uniquely Harvard,” whether they involve interactions with Harvard faculty and teaching fellows; Harvard museum, library, and archive assets; Harvard digital content; or other aspects of the Harvard campus experience.

- Harvard will thoughtfully and creatively incorporate the benefits of technology and remote education, always remembering that technology is to enable teaching and learning and is not an end unto itself.
• Harvard will seek to engage students wherever they live, whether in Cambridge/Boston or elsewhere, and without necessarily increasing our physical footprint.

• Although our various learner experiences won’t be identical, Harvard will seek to deliver excellent outcomes. We are challenging the assumption that high-quality education must only be in-person.

• Diversity, equity, and inclusion will inform all teaching and learning activities.

• Innovations and investments in teaching and learning will continue at multiple levels: the faculty and course level, the program and school levels, and at the university as a whole. Innovation on the front lines will be facilitated by central support, leveraging shared insights, dedicated resources, and fixed investments across Harvard.

• Any meaningful expansion of Harvard’s teaching and learning activities will be guided by the principle of engagement at scale, not one or the other. To achieve both high touch and global reach, we will foster online communities that preserve the core of the Harvard experience.29

B. Three Strategic Action Areas

i. Reimagining the Classroom: Blended Classrooms, Courses, and Curricular Pathways That Enhance the Student Experience

Motivating Factors

During the pandemic Harvard faculty reimagined their classrooms as digital spaces because they had to. That necessity led to the discovery that some digital tools can improve residential teaching. The experiences of the pandemic reinforced the need to intentionally build community among both online and in-person learners.

As described in Section III, faculty members discovered that digital technologies make teaching and learning possible across geographies and with flexible approaches to time. They especially appreciated interactive learning features, a mix of synchronous and asynchronous content (a “flipped classroom” approach, access to guest speakers based elsewhere, and virtual office hours. In a Spring 2021 survey of more than 600 faculty, 82% expressed interest in integrating aspects of remote teaching into their residential teaching, suggesting that digital tools in residential contexts are here to stay.

Opportunities

The task force encourages Harvard faculty to reimagine the classroom, both residential and online, and to combine the best of both modalities in thoughtful, effective ways. For example, faculty and programs can:

• Meet students where they are through practices that empower every Harvard student to thrive, enable a variety of learning styles, and incorporate technologies that make learning more flexible. Harvard can expand pre-matriculation programs, deepen in-program academic supports, incorporate inclusive participation tools such as Teach.ly, offer students greater choice in assignments and assessments, make recorded lectures more widely available, 82% of Harvard faculty are considering blending remote teaching features into their in-person classes

29 See “Defining a Harvard Experience.”
increase use of chat and captions, offer virtual office hours, and encourage the use of collaborative tools such as Miro and Jamboard.

- **Prioritize meaningful interactions with faculty and peers.** These include interactive pedagogy in live classrooms (via polling, breakout rooms, collaborative tools and group projects, and moderated chat), interactions outside the classroom (in-person feedback), asynchronous interactions (student and faculty introductions, discussion boards, student content galleries, and recorded messages), and peer-to-peer teaching groups.

- **Blend in-person and multilocal experiences** by developing hybrid or low-residency programs, as with Harvard Chan’s MPH-EPI degree and the Harvard Business Analytics Program.

- **Build lifelong community engagement** so that learning at Harvard does not stop upon graduation. Many alumni are eager to continue learning and to build connections with fellow graduates. The more opportunities they have to do so, the stronger will be their lifelong education and identification with Harvard.

**Considerations**

Many of these approaches don’t require significant expense or technical expertise, although schools and divisions should make training and resources available to faculty who want to build their skills. But some will require **action at multiple levels** across Harvard. Schools and academic leaders who seek to enable classroom innovation should consider how to:

- Support faculty in developing new and innovative digital content that can also be reused across programs.

- Incentivize and support a culture of continuous innovation. That will require, among other things, encouraging and funding teaching experiments; considering explicit incentives, perhaps in the form of additional compensation or as part of review criteria; and providing staff, training, and technology resources, including Teaching and Learning Center instructional designers with specific expertise.

- Leverage technologies with which today’s students surround themselves. In some cases, that may mean revisiting bans on classroom devices, because several powerful learning tools require access to technology. Faculty who lean into creative uses of technology should feel they’re embodying, not violating, the norm.

- Make time for students before and after class. During 2020–2021 many faculty found that by opening class early and staying after, they strengthened their connections with students and increased connections among them. Some facilitated interactions before a course started and after it ended. Some Harvard schools are considering adding space around designated class times to facilitate such interactions.

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30 Karim Lakhani, one of the HBS faculty leading AfricaLive!, described the experience of interacting directly with students through asynchronously recorded video messages on VideoAsk as a key part of fostering meaningful engagement between faculty and learners.

31 Schools and departments are learning that faculty are most enthusiastic and receptive to feedback when it comes from peers and as sharing rather than evaluation.
• Develop modular curricula. Many of our executive education programs innovated in this way, and all long-duration programs could benefit from this approach. At its best, blended education includes discrete components delivered frequently to enable greater “soak time” and flexibility for learners.

Opportunities abound for Harvard-wide action and collaboration too. University-wide collaboration was unprecedented during Covid-era teaching. To continue it, we should:

• Consistently provide the best learning infrastructure, or “hardware,” including tools and platforms to enable faculty to more seamlessly embrace new approaches to active learning and community building.  

• Cross-pollinate and share ideas. Faculty sharing of new approaches, materials, and experiences will have the most-obvious benefits for major courses with multiple sections, in which faculty can come together in common cause, but they also extend across courses, departments, and schools.

• Create incubator-style mechanisms enabling faculty to learn about new tools, experiment with new classroom approaches, build modular content prototypes, and spend time with peers and instructional design experts who are using strategies we’ve described above.

• Curate and disseminate innovations in blended learning, including rigorously tracking learning outcomes in the classroom and sharing learnings beyond Harvard’s boundaries.

Acting on these opportunities will require intentional strategies, fixed investments, and continued assessment of existing policies, such as the residency requirement for degrees, in order to enable learning experiences that expand access and build the strength of the community.

The unifying principle informing all such efforts must be to put students and their needs at the center rather than assume a classroom-first context. We can strengthen the fundamental anchors of the Harvard experience through deliberate, creative, and thoughtful learning design for all modalities, whether residential, blended, or online. Doing so can engage an even broader range of students in ways that expand Harvard learners’ geographic, demographic, and financial diversity.

ii. Enriching Content: Creating a New, Unified, and Coherent Strategy for Digital-first and Short-form Learning Experiences

Motivating Factors

The context for a new short-form-anchored learning opportunity is shaped by pre-pandemic trends along with internal and external factors during Covid.

First, our supply of short-form content dramatically increased during Covid, primarily as a byproduct of our remote teaching efforts. Every day thousands of students experienced new shortform asynchronous learning content created by Harvard faculty and staff. The number of faculty with experience in live online teaching or asynchronous content creation increased from roughly 300 before the pandemic to more than 5,000 today. Although the vast majority will probably never

32 For example, this would include investments not only in the best off-the-shelf learning management systems but—and building off the experiences of recent years across Harvard’s Schools—investments in new Harvard-wide learning experience platforms that are designed around pedagogical principles of active and peer learning, are flexible, data-driven, and customizable, and that can that complement existing LMS and synchronous platforms.

33 By “short-form content” we mean that which requires less than three hours of “learner seat time.”
create a long-form (30-plus hours) online course, more than a third say they’re interested in repurposing their content to share across and beyond Harvard. That cohort represents an eager but untapped asset. How can we harness their energy and capabilities? Some have started to do so: Harvard Medical School shared faculty-created videos with medical schools in Rwanda. A group of undergraduates began working with math faculty to make their newly created asynchronous content available to learners beyond Harvard.

Second, the demand for short-form content and learning experiences from Harvard faculty has also exploded. Other educational institutions, third-party online learning platforms, training companies, and other organizations are all expressing interest in short-form content from Harvard faculty including masterclasses, executive programs, and podcasts. Serving learners and our faculty well will require leveraging this inbound interest consistently and strategically. Without a coherent Harvard strategy for enabling such activities, Harvard runs the risk of fragmenting its core teaching and learning mission, accelerating brand incoherence, and creating increased competition for our own internal efforts.

Third, the digital medium itself presents new and important opportunities to expand and enrich the impact of our teaching and learning efforts. Online content from Harvard (and most other universities and major learning platforms) has, until now, largely mimicked the residential semester-long course structure in format (30-plus hours) and pedagogy (lectures) rather than taking full advantage of the flexibility of the digital medium. Digital technologies and online media enable interactive learning, rich real-time social and collaborative learning, and personalized learning. Recent trends confirm the potential for richer media formats (audio in addition to video and text), new formats (short form), and new approaches (a revised asynchronous/synchronous mix) to create “digital-first” learning experiences with broader, targeted, and more-inclusive impact.

**Opportunities**

Short-form content can underpin a new Harvard learning strategy that leverages the efforts of faculty in residential classrooms, creates new and transformative opportunities for residential and online learners, and generates new ways for faculty to connect with learners everywhere. Harvard has been at the forefront in recent years of online learning innovations including long courses and advanced learning-experience platforms and now has an

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34 Many of these activities are restricted by Harvard’s outside activities policies, which were designed to create guidelines for when faculty can teach outside the university and include restrictions on teaching “courses” outside of Harvard. As the lines between outside activities and residential obligations blur, and as organizations sometimes obfuscate the difference between a series of short-form content and long-form courses, the need for Harvard to judiciously implement existing policies while recognizing and facilitating new possibilities for Harvard’s faculty to innovate in teaching is paramount.

35 However, as described earlier, several online offerings at Harvard (HBSO, HMX, HKS’ PLC program, and HGSE’s CSML offerings) embraced an inductive digital-first approach to online pedagogy.

36 Prior to the pandemic, the potential for new short-form content offerings to impact learning in new ways was already being incorporated into Harvard’s online strategies, including strategic discussions within VPAL, efforts within HBS and HBP to create new modular content, and individual faculty efforts.
opportunity to lead in creating new short-form online learning experiences.\textsuperscript{37} Done right, that can increase access and inclusion and create a global community.\textsuperscript{38}

Consider the following:

- **Content for residential courses** can be repurposed and shared with external audiences. Examples include some of the asynchronous content created during Covid, as described earlier; recordings of remote lectures; and “building blocks” containing short learning experiences in the foundational concepts of a course or subject.

- **Professionally produced short courses** created for external audiences can be reused in residential settings. Offerings such as MasterClass and Outlier increasingly rely on faculty in higher education to create five- to 10-hour online asynchronous courses in their areas of expertise.

- Learning experiences can go beyond video formats. During Covid, faculty at Harvard Divinity School experimented with weekly **podcast-style content** that students would discuss in three-person virtual groups. Harvard Kennedy School produced podcasts in which alumni reflected on their learnings there. Other faculty and units have also launched specialized podcasts. Interest in the format is growing.

- New **short-duration classes** for the Harvard community can serve students, staff, alumni, and faculty. Harvard Medical School created two-day live-streamed master classes for experienced clinicians. Objectives included exploring new concepts and treatments for specific psychological disorders. Multiple presenters taught the sessions and provided rich opportunities for student interaction.

- **Live episodic sessions** led by Harvard faculty can provide expert perspectives on topics of contemporary interest, such as climate change, diversity, and resilience.

Below is a spectrum of representative offerings that **complement** current vehicles for reaching audiences beyond the classroom (peer-reviewed research articles, articles for lay and professional audiences, and blog posts, for example). We expect that short-form learning experiences and modular content will be widely used in existing courses and programs and will also form the basis for stand-alone offerings.

\textsuperscript{37} Harvard already uses various forms of short-form content to engage with prospective learners, alumni, and other stakeholders. We need only think of the broad reach of the various publishing groups within Harvard to start to understand the power of this type of content in a broader engagement strategy.

\textsuperscript{38} See “Expanding Community,” below.
EXHIBIT: REPRESENTATIVE FORMS OF SHORT-FORM CONTENT

CONSIDERATIONS
A vast amount of short-form content—blogs, podcasts, master classes, and so on—is available in today’s world; simply put, everyone is a teacher today. Certain principles can help ensure that our efforts will have a meaningful impact. As Harvard considers opportunities in this arena, we recommend:

- **Being highly intentional about the learner audience, or whom we target**

- **Identifying ways for Harvard-created learning experiences to have a clearly differentiated impact** on targeted learners, whether by leveraging unique content and our faculty’s world-class expertise, reputations, and pedagogical excellence or by capitalizing on the Harvard brand’s ability to signal excellence and trust

- **Prioritizing frictionless use** given the vast amount of available content. That will involve curation, ensuring that content is discoverable, personalizing its use to learners’ needs, and making technology seamless.

An effective strategy for short-form content will simultaneously require **local innovation and creativity** by faculty and **greater coordination** to ensure the efficient use of high-production resources, provide access to common infrastructure, and realize cross-Harvard benefits. Those benefits might include sharing content across schools to avoid costly duplication of effort and investment. Content building blocks for foundational topics such as comparative advantage in economics and utilitarian ethics in philosophy can be reused by a number of departments and schools at Harvard, not just by parties outside the university.

Coordination has several other advantages:

- **Infusing pedagogical best practices**, a stylistic consistency, and content curation so that learners can expect a “Harvard quality” in each experience even as faculty members bring their own perspectives and personalities to instruction. For example, the Harvard Signature Events series during Covid, which entailed centrally coordinated live-streamed talks by diverse speakers across Harvard, benefited from a high degree of thematic curation and a consistent format.
• Investing in a **Harvard-wide common learning experience platform** that incorporates pedagogical practices; enables personalization, data, and identity management; offers seamless integration with the residential learning management system (Canvas) and synchronous platforms; and facilitates deep relationships and community interactions.  

• Enabling **easy discovery** by learners through curation and catalog coordination.

• Negotiating **Harvard-wide partnerships** where relevant for outreach, including services such as marketing, distribution, and translation so that learners can efficiently access and share Harvard content.

• Facilitating **incentives for faculty** to create content that recognizes the opportunity costs of doing so.

### iii. Expanding Community: Reimagining Harvard’s Global Online Learning Experience

The opportunities to transform Harvard’s teaching and learning do not end at the boundaries of any individual classroom, School, or even campus. The learnings of 2020–2021 and the prior decade’s experience creating massively available online content create the need and opportunity for a new Harvard global online learning experience, which we’ll call Harvard Global Learning 2.0.

**Motivating Factors**

Three objectives inform our discussion of Global Learning 2.0’s strategy. First is the need to **emphasize content with connections**. Impactful learning experiences include the relationships, connections, and community that are the hallmarks of residential education. Over the past decade we learned that when community building is intentionally incorporated into online courses, it makes a powerful contribution to the overall learning experience. Efforts to create content and expand our use of digital learning in a global context should prioritize a learner-centered perspective and put engagement and connection at the heart of the experience.

Second is the importance of a **“all-Harvard” experience**. During the pandemic Harvard cut through the traditional constraints of school-delimited interactions and made parts of the entire university more accessible to everyone: all of Harvard was just a click away. In university-wide courses, all-Harvard Signature Events, alumni engagement with students, joint teaching and guest

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39 Work in this regard is underway on a new Harvard-wide learning experience platform led by the Office of the Vice Provost for Advances in Learning, Harvard Business School, and Harvard University Information Technology.

40 Incentives for innovation and reevaluating how innovation factors into financial and career rewards are a critical component of any teaching and learning transformation. In a survey of faculty experiences during the pandemic, 26% specifically cited incentives as a necessary condition to creating content for non-residential teaching. In the words of one faculty member, “An incentive structure would also help. This could involve a relatively small amount of discretionary funds or explicit consideration of such activities as a driver of favorable decisions on promotion and tenure.” Faculty can create content, but shouldn’t be expected to be experts in effectively distributing or marketing this content to learners beyond Harvard, they will need appropriate assistance from Harvard to get their content professionalized and on a platform that is widely accessible. In addition access to leading-edge technologies, professional IT support, and creative support can give faculty much-needed assistance to create and distribute quality digital content.

41 Here we draw on a decade of experiences, including HarvardX, HBSOnline, HMX, and faculty efforts to create and sustain community through Zoom during the pandemic. Content provided without mechanisms for interaction diminishes the experience for learners, while engagement-oriented approaches enrich learning outcomes and lead to meaningful connections.

42 See “**Defining a Harvard Experience**,” below.
lectures from across and beyond Harvard, and virtual immersions, faculty and students experienced Harvard in its entirety. These examples provoke a digital strategic vision that transcends the geographic and organizational boundaries typical of residential education so that Harvard’s considerable resources are not compartmentalized within schools, departments, and portals.

Third is the need to create **enduring engagement in residential and virtual contexts**. This is a two-pronged strategy: We should strive to engage alumni throughout their lives, making it easy to transition from residential learning communities to virtual ones. And we should invite into the Harvard community learners who might never come to the physical campus because of geographic, pricing, and capacity constraints.

**Opportunities**

The task force envisions that such content and connections will form the heart of a **global digital campus**: a unified portal for our online offerings, a destination for Harvard’s digital experiences and resources, and a digital context for learning and intellectual interactions. The vision is not to replace Harvard’s centuries as a physical destination but to extend our campus into digital spaces and create new learning opportunities, and in so doing to expand in unbounded ways the experiences that make being on Harvard’s physical campus so enriching.

**Academic and intellectual impact.** A Global Learning 2.0 strategy can enable Harvard to create a new type of **learning and research community**, working to address the world’s most challenging issues while advancing Harvard’s mission of education and scholarship. This opportunity derives from the breadth of the university’s resources and our global reputation as a nexus of intellectual leadership and academic excellence. The global challenges of the pandemic have underlined Harvard’s contributions in fields ranging from public health campaigns and medical interventions to international policymaking and efforts to combat disinformation. With this new learning strategy, our faculty can enrich global discourse and practice in new and inspiring ways, while a global learning community can support emerging leaders with vital perspectives and experiences.

**Content and relationships.** Fostering interactive learning communities would bridge residential/virtual divides. It would leverage resources across Harvard and strengthen internal coordination while preserving schools’ foundational autonomy. It would welcome a broad array of content—long form and short form, synchronous and asynchronous—built on the work of Harvard faculty and alumni. And it would create the conditions for serendipitous interactions and learning communities. Faculty and students alike would benefit from new venues for collaboration, discussion, and learning while connecting with learners around the world.

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43 This vision stands in contrast to the current bifurcations between residential and online courses at Harvard. Consider, for instance, the minimal connections Harvard’s edX courses have with residential learning and campus dynamics.

44 Experiences during Covid illustrate the breadth and depth of talent and desire to participate in Harvard’s learning opportunities. During the pandemic, degree programs that went virtual tapped into a new applicant pool that was often as, or in some cases more, diverse, experienced, and global.
Broadening our vision without diminishing our reputation. The Global Learning 2.0 strategy can reframe Harvard’s role in the world by prioritizing access, impact, and inclusion. A physical campus can include a finite number of outstanding thinkers and learners. A digital campus can draw into our community talented students who could never come to Cambridge or Boston; amplify their learning experiences; and make those experiences more meaningful through long-lasting relationships. Broadening the universe of who can be part of Harvard will deepen, not diminish, our excellence and reputation.

Indeed, the task force believes that Harvard is better with more, not fewer, people in our community. **Talent is widely distributed, but opportunity is not.** We encourage setting ambitious targets and developing fundamentally new approaches for reaching this talent pool; an aspirational vision is to engage 5% of the global population in the shared pursuit of community and learning. Harvard has the opportunity to catalyze inclusion, remain at the forefront of emerging educational opportunities, and strengthen our leadership in challenges facing the global community.

**CONSIDERATIONS**

As the task force discussed the digital Global Learning 2.0 strategy, three major themes emerged. First, **short-form content, as discussed above, is a sine qua non.** We can have no global Harvard learning community without a coordinated approach to developing content that fuels learning, conversations, and connections.

Second, creating a large-scale learning community demands **robust norms for interaction.** Just as our physical classrooms have norms around respectful discussions, a digital campus must emphasize the respectful exchange of ideas and carry clear penalties for abuse.

Third, a digital campus requires **new thinking about Harvard’s approach to technology for teaching and learning.** Engaging a global community in meaningfully interactive ways will demand new tools and systems and strong internal coordination. We will need a platform that:

- Complements rather than replaces existing learning platforms.
- Allows participants to access offerings from across Harvard, integrating with existing platforms as required.
- Centers on relationships among learners and creates opportunities for engagement with faculty and one another through new and innovative approaches to interactive and peer learning.
- Facilitates moderated discussions at scale.
- Lets faculty seamlessly publish content, collaborate with peers, and interact with learners.
- Supports relationships with organizations outside Harvard, including technology vendors that will allow the digital campus to host millions of users and meet university requirements in areas such as seamless identity management, e-commerce, and content moderation.

Developing a digital learning community that encompasses residential students, alumni, and new global participants is a compelling and ambitious vision. Even as we recognize the challenges, we are inspired by our initial discussions. We recommend creating a university-wide working group to more fully explore the vital and exciting opportunity posed by Harvard Global Learning 2.0.
C. Key Considerations

i. Defining a Harvard Experience

Across all the opportunities we’ve discussed, there is a focus on retaining key elements of what it means to be at Harvard.

There is no one “Harvard experience.” Historically, it has signified a cauldron of ideas, a network of relationships, a commitment to truth, and an instrument of inspiration for on-campus learners. Those attributes should continue to anchor all Harvard offerings, whether residential or virtual, long- or short-form, for 30 in-person learners 3,000 online course learners, or 300 million learners in a virtual campus community.

We recommend close attention to five factors:

- **Deliberate, thoughtful learning design.** A Harvard learning experience means exploring, combining, and balancing multiple possibilities and techniques while drawing on faculty’s expertise and pedagogy. Many faculty approach teaching college first-years differently from the way they teach mid-career professionals. Expanding multilocal and remote offerings will deepen our repertoire and our ability to design intentionally.

- **Focus on outcomes.** Harvard rightly strives for lasting impact on its learners. So, we should focus on outputs and outcomes rather than on inputs.

- **Engagement with faculty and other students.** A Harvard experience is distinctive for meaningful interactions with our faculty. All programs should also draw on the backgrounds, insights, and participation of our exceptionally talented and diverse learners.

- **Enduring social connections.** What matters most in the residential experience is peer-to-peer interaction, which leads to lifelong connections. As we design new classes and programs, we must create environments that foster noncurricular interactions that will do so similarly.

- **Relationship with the campus.** As a place of community, tradition, and serendipitous interaction, the Harvard campus itself deepens connections and engagement. We recommend paying close attention to the whole learner experience – not merely knowledge transfer – and therefore to the interactions that the Cambridge/Boston campus facilitates. Recognizing that not every student we touch can live in Cambridge, we encourage deliberately designed, intentionally enabled digital interactions that strengthen our interactions and relationships in our global community.

As we explore new programs, especially low-residency degrees, the opportunity arises to reexamine the residency requirement for degree programs. The current requirement has guided the approval of degrees involving an online component. As schools propose new degree programs, parts of the policy may need to be made more explicit, more contemporary, or more balanced.

ii. Measuring Impact

When setting strategic direction and evaluating new degree and non-degree programs, Harvard should focus on learning outcomes and impact (outputs) rather than on delivery modes, seat time, and other inputs. In nondegree programs, for instance, geographic reach and enrollment data are incomplete and sometimes misleading indicators of success. Instead, we also need measures of learner outcomes. Those might include familiar measures of learning mastery along with measures of individual impact (career aspirations, professional outcomes, and subjective but important
effects on confidence and belonging) and social impact (access, inclusion, and learners’ subsequent impact on their communities).

Developing meaningful metrics will require additional effort: prototyping, evaluating, and iterating teaching and learning experiments. Some examples:

- In-classroom and blended teaching and learning experiments. Experiments to determine impacts on learning outcomes must take student differences into account (levels of prior preparation, learning approaches, and participation styles) and recognize that a variety of learning experiences and supports may be needed to achieve excellent outcomes.

- Short-form content generation through multiple modalities. Building on the progress during 2020–2021, faculty could develop standalone minicourses and content modules for non-Harvard teachers to use in their curricula.

- Digital community-gathering and collaboration events. Measurement could begin with several prototype communities to improve our sense of how to run an impact-driven global community online.

**iii. Equity and Access**

Inspired by Harvard’s enduring commitment to creating generations of global leaders, and with renewed urgency stemming from the social and racial justice movements that strengthened during the pandemic, the task force maintained a focus on equity and access. Diversity, equity, and inclusion (DEI) should be among the key design criteria for all future teaching and learning endeavors.

This will mean considering issues of equity and access in the earliest planning phases and throughout program development and deployment. Five priorities should define our commitments:

- **Participation access:** Welcome audiences previously unable to access Harvard’s offerings. current requirement. The success of programs like Harvard Graduate School of Education’s special admissions cycle for AY21, the Division of Continuing Education’s degree and nondegree programs, Harvard Business School Online’s CORe program, and Harvard’s virtual executive education experiences demonstrate the appeal of Harvard offerings to talented learners unable to relocate to Cambridge for the length of a residential program, and when restrictions induced by the constrained physical capacities of residential offerings are otherwise relaxed. In all cases, show that these learners have valuable contributions. Their professional experiences and personal circumstances bring compelling and diverse perspectives to their learning communities.

- **Content access:** Lower content barriers through shallow on-ramps, inclusive classrooms and pedagogies, and reduced frictions around content discoverability. Success looks and feels different to every learner, and each learning trajectory is unique. Harvard has a commitment to ensuring that every student is fully prepared for learning. Pre-matriculation programs that level the playing field by giving all students mastery of prerequisites, classrooms that ensure inclusive participation, and pedagogies ensuring that all students are engaged and challenged are crucial to more-equitable learning. The mix of thorough preparation and vital supports will make it easier for all students to realize their aspirations.

45 Similar issues around participation access pertain to technology bandwidth considerations for relevant populations.
• **Support access: Help learners where they are.** The diversity of students’ skills, backgrounds, opportunities, and challenges create an imperative for robust advisory and peer support structures. Innovative curricula in both residential and online contexts can make an impact only if complemented by conditions conducive to academic achievement and personal well-being. As learners move through courses and programs, we should provide ample support, choice, and flexibility.

• **Community access: Provide opportunities for deep interactions, peer connections, and meaningful inclusion.** Harvard’s students, alumni, faculty, and staff form enduring social and intellectual relationships that start in classrooms and continue beyond. The task force believes that this community is central to the university’s global legacy. New strategic directions should emphasize peer connections for learning and community development and provide opportunities for meaningful inclusion across intellectual, professional, and personal realms.

• **Financial access: Reduce or eliminate reliance on the ability to pay.** To ensure equitable access to new learning opportunities, the task force believes that Harvard should deepen its long-standing commitment to reduce or eliminate financial capacity as a barrier to participation, thereby ensuring that students from a wide range of socioeconomic contexts are able to matriculate. That said, the various other dimensions of access described above underscore that financial access may be a necessary, but by no means a sufficient, condition for ensuring consequential inclusion and access.

**iv. School-Level and One Harvard Implications**

Given Harvard’s decentralized structure, how should we identify and implement these recommendations? A Harvard-wide vision does not substitute for school-specific strategies. And coordination need not compromise local innovation; it can strengthen it, as our experiences in the past decade and particularly during the pandemic have shown.

Coordination can include sharing best practices across faculty and schools, distilling learnings for widespread dissemination, identifying interdependencies and externalities across schools, triggering innovations, crafting policies to be standardized across Harvard, shepherding the brand, accessing Harvard-wide relationships and communities, and making large fixed investments. None of these activities imply uniformity of strategies, innovations, or activities across schools. Nor do they imply a One Harvard approach—but all of Harvard is likely to benefit.

Done right, the whole can be significantly greater than the sum of the parts. Individual instructors and schools can magnify their impact through university-wide collaboration and coordination. Central resources can lower barriers and prevent duplication. We recommend committing to collaboration and investment in several key areas in which cross-school coordination has already succeeded:

• **Creating Harvard-wide content.** For the past nine years, the HarvardX team been a course creation engine and a repository for online content across Harvard’s schools. Central efforts triggered school innovations, as early efforts in HarvardX and edX spawned online teaching and learning strategies across nearly all Harvard schools, including HBS (HSBO), HMS (HMX), HGSE (CSML), HLS (Zero-L), and DCE (HElix). Harvard-wide centers of excellence could be broadened to include marketing, impact measurement, and data analysis.

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46 See also “Cross-School Opportunities,” above.
• **Surfacing innovations.** Great ideas can come from anywhere, but they spread only if curated and shared by cross-school efforts, that have ranged from biweekly Into Practice newsletters and the Teaching Innovations Gallery (during the pandemic) to regular meetings of the Teaching and Learning Centers, cross-school Colleague Conversations, Harvard-wide faculty surveys, and Harvard-wide reports on remote teaching and learning during the pandemic.

• **Coordinating cross-school agendas.** Over the past three years the disparate leaders of Harvard’s professional and lifelong learning (PLL) community, including executive, continuing, and online education, have benefited from collaboration, joint initiatives, and meetings co-chaired with HUIT and VPAL. During the pandemic the VPAL Academic Planning Group convened leaders in all the schools to help coordinate efforts, identify common opportunities and challenges, surface interdependencies, and draft policies.

• **Common standards: digital credentialing.** Although several schools had considered offering e-certificates, badges, and other digital credentials, they boosted their efforts in 2019-2020, led by the FAS Registrar’s Office and spanning registrars, VPAL, the Commencement Office, and the PLL community. By June 2021 the schools had issued more than 16,000 digital degrees and certificates bearing the same authority as printed ones.

• **University-wide policies.** Schools benefit when central offices provide consistent advocacy and administration of policies, such as approval of new degrees, residency requirements, and outside activities.

• **Harvard-wide partnerships.** Outside organizations often want to work with one Harvard, not with multiple Harvards. Central coordination should facilitate bidirectional access and optimize terms, encouraging schools, programs, and faculty to form mutually rewarding relationships.

• **Learning platforms and tools.** As the Harvard Library and the widespread use of Canvas and other technologies have shown, our learners benefit when they can move seamlessly across multiple Harvard academic units using common platforms. Future content delivery will require heightened functions and integration. (See “Technology and Platforms,” below.)

• **Identity and data management.** Owing to siloed databases and student information systems, Harvard currently has no way to track and enhance a single learner’s experience across multiple schools. The task force strongly supports current efforts toward cross-university identity management to enhance post-pandemic teaching and learning opportunities.

• **Digital assets and a Harvard digital campus.** The vision described above (“Expanding Community”) would capitalize on Harvard’s eminence in a range of fields. To effectively integrate short-form content and global engagement, central, cross-school initiatives should establish frameworks for the university as a whole, laying the groundwork for participation by innovators and educators Harvard-wide.

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v. **Technology and Platforms**

Several of these initiatives would benefit from a coordinated technology strategy that identifies cross-school teaching and learning priorities and advances cooperation and resource sharing. We’ve identified three priorities:

• Upgrading classroom capabilities with simple tools to enhance synchronous teaching and learning.
• Creating new digital classrooms similar to DCE’s Helix and HBS Live spaces for large-scale remote synchronous teaching.

• Building a unified online learning experience platform that addresses key needs in residential and online learning.47

The proposed strategy would require fixed-cost investments in areas including infrastructure, hardware, and technical capacity. It would also require coordination and strategic assessment across divisions to ensure wise allocation of resources and university-wide benefits.

V. Recommendations: Next Steps

Our core recommendations can be implemented in three phases. First are those we could implement immediately with low incremental resources and supportive policies; they are strategies to enhance existing instructional models and programs. Second are those we could implement over 1-3 years with meaningful investment; they are strategies to invest in the future. Third are ones requiring exploration and analysis; they are strategies to explore over the longer term.

We have organized our recommendations according to the “lead agents of change”. Some can be implemented at the faculty and course level, some will require school-level decisions, and some will require action at the university level. The latter include central investments, centrally led negotiations, “One Harvard” offerings, and changes in university policies. Although each has a primary change agent, nearly all can be enhanced by actions at multiple levels.

Phase I: ENHANCE a Culture of Innovation (immediate)

<table>
<thead>
<tr>
<th>Level</th>
<th>Recommendation</th>
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<tbody>
<tr>
<td>Faculty and Course</td>
<td>• <strong>Meet students where they are</strong> through practices that empower every student to thrive, enable different learning styles, and incorporate technologies, included blended approaches, that make learning more flexible.</td>
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<tr>
<td></td>
<td>• <strong>Prioritize meaningful interactions with faculty and peers</strong> through, for example, interactive pedagogies, asynchronous interactions, and peer-to-peer teaching groups.</td>
</tr>
<tr>
<td>School and Program</td>
<td>• Expand <strong>pre-matriculation programs</strong> and strengthen in-program academic supports.</td>
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47 A new platform could provide a path to market for schools and organizations that require more-immersive learning experiences; enable Harvard schools and programs to standardize and centralize the administrative functions associated with online programs; reduce costs; and facilitate cross-school and university-wide initiatives. Such a platform would complement rather than replace existing platforms like Canvas.
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<tr>
<td></td>
<td>• <strong>Empower and reward</strong> impactful and innovative teaching for ladder and non-ladder faculty.</td>
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<td></td>
<td>• Continue <strong>creating resources and crafting guidelines</strong> for instructors across teaching modalities and course types, with a recognition of different teaching styles.</td>
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<tr>
<td></td>
<td>• Continue <strong>blended and online degree program pilots</strong>, Data on admissions, experience, and outcomes should inform university degree policy and help future programs meet the needs of talented learners unable to access our residential offerings.</td>
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<tr>
<td></td>
<td>• Enhance nondegree program experiences through <strong>modular designs</strong>. Learn from professional and lifelong learning departments that are rethinking the multiweek model and breaking long programs into smaller stand-alone modules.</td>
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<tr>
<td>University</td>
<td>• Deepen <strong>teaching and learning supports</strong> such as classroom tools and apps, data collection and dissemination, and Teaching and Learning Centers.</td>
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<tr>
<td>University</td>
<td>• Disseminate <strong>teaching and learning best practices</strong> across Harvard and beyond. Continue to surface innovative practices, and ensure coordination across schools and programs.</td>
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### Phase II: INVEST in Technology Infrastructure and Content Strategies (1-3 years)

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<th>Level</th>
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<tbody>
<tr>
<td>Faculty and Course</td>
<td>• <strong>Measure learning outcomes</strong> to understand the impact of new approaches, modalities, and audiences. The task force recommends adding measures of reach, personal transformation, and social impact to the traditional metrics of learning mastery and career outcomes.</td>
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<tr>
<td>School and Program</td>
<td>• <strong>Upgrade technology in residential classrooms</strong> and prototype new models for teaching and learning. Build on current hybrid classroom experiments to evaluate investments in technology-enabled classrooms, such as extensive multi-screen setups and screens to monitor chat.</td>
</tr>
</tbody>
</table>
| University                 | • **Create space and place where faculty can explore and practice.** Harvard can build a sandbox—with staff, resources, even a studio—for faculty to tinker with remote and blended teaching methods, drawing on such models as the Global Health Education and Learning Incubator.  
  - Execute a **short-form content strategy**. By investing in campus-wide resources and central infrastructure, Harvard can offer faculty versatile ways to reach audiences in new formats, including digital encyclopedias, interactive audio, and short courses.  
  - Build a unified **Harvard-wide learning experience platform** that addresses key online and residential learning needs. This can complement our current investments, be tailored to learners’ needs, and allow all schools to offer blended and online learning in new ways that benefit both residential and online programs with bidirectional spillovers.  
  - **Expand spaces for state-of-the-art online synchronous learning.** We should expand the availability of experiences such as HBS Live and HELIX by investing in next-generation teaching spaces that can dramatically increase faculty’s reach, breadth, and impact.  
  - **Negotiate Harvard-wide partnerships.** We can expand flexibility and access for talented learners worldwide by partnering with other colleges and universities, employers, and organizations that have complementary digital capabilities. |
Phase III: EXPLORE New Possibilities (longer term)

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<tr>
<td>Faculty and Course</td>
<td>• Update <strong>IP and outside activities policies</strong>. The Provost’s office is sponsoring a faculty-led review of the university’s outside activities policies to modernize guidance for faculty eager to reach audiences beyond academia and to share their expertise through short-form and other innovative formats.</td>
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<tr>
<td>University</td>
<td>• Continue work on <strong>Harvard Global Learning 2.0</strong>. This report articulates the task force’s vision of a more global Harvard: a digital campus capable of engaging a meaningful fraction of the world’s population in the pursuit of community, knowledge, and truth. We recommend charging a follow-on working group with refining and implementing our vision.</td>
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VI. Summary

For centuries Harvard has been deeply committed to excellence and to the opportunities it creates. We now redouble that commitment, and with it the determination—the responsibility—to enrich education throughout the world. Anchored in our campus experience, strengthened by our talents and resources, and bolstered by our best Covid-era innovations, we aspire in this pivotal moment to change the future of teaching and learning at Harvard.

Over the course of the pandemic, Harvard rethought its ideas and pushed its boundaries around online learning. We learned that while some programs and audiences are well-suited to in-person learning, others are not. Blending modes—synchronous, prerecorded, breakouts, simultaneous chats, Zoom-based office hours—can dramatically improve learning outcomes. By drawing on what we’ve learned about teaching practices, flexible infrastructure, cross-campus coordination, and wider audiences, we have already begun creating richer and more-nuanced offerings.

We have an opportunity to not merely bounce back but to stride forward. Because of the pandemic—because of how we taught and what we learned—Harvard will be better. We will offer an improved experience to more and better learners. We will share our educators and expertise more broadly, consistently, and accessibly. And we will engage deeply with learners and communities, partners and institutions, to revolutionize access to education worldwide.

We encourage the schools and the university to pursue a broad range of approaches rather than a one size fits all, but unified by such core themes as deliberate, thoughtful learning design; a focus on outcomes; engagement with the faculty and the student body; enduring social connections; and a relationship with the campus. Together, the recommendations in this report constitute an ambitious yet achievable vision: to heighten innovation, deepen collaboration, and expand the excellence Harvard has always sought to inspire.
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Appendix A: Task Force Members

Faculty and Leaders

Bharat Anand  Harvard Office of the Vice Provost for Advances in Learning and Harvard Business School (Chair)
Catherine Breen  Harvard Office of the Vice Provost for Advances in Learning
Glenn Cohen  Harvard Law School
Nancy Coleman  Harvard Division of Continuing Education
Suzanne Cooper  Harvard Kennedy School
Erin Driver-Linn  Harvard T.H. Chan School of Public Health
Anne Harrington  Harvard Faculty of Arts and Sciences
Lisa Haber-Thomson  Harvard Graduate School of Design
Randall King  Harvard Medical School
Karim Lakhani  Harvard Business School
Bridget Long  Harvard Graduate School of Education
Anne Margulies  Harvard University Information Technology
Martin Puchner  Harvard Office of the Vice Provost for Advances in Learning, Harvard Faculty of Arts and Sciences
David Roberts  Harvard Medical School
Michael Smith  Harvard John A. Paulson School of Engineering and Applied Sciences, Harvard Faculty of Arts and Sciences
Dustin Tingley  Harvard Office of the Vice Provost for Advances in Learning, Harvard Faculty of Arts and Sciences
Martha Whitehead  Harvard Library

Staff

Graydon Clouse  Harvard Office of the Vice Provost for Advances in Learning
Jonathan Lehrich  Harvard Office of the Vice Provost for Advances in Learning
Leah Muse-Orlinoff  Harvard Office of the Vice Provost for Advances in Learning

Advisors

Samantha Heath  Deloitte
Tay Jacobe  Deloitte
Jessica Lawrence  Deloitte
Roy Mathew  Deloitte

Faculty and Leaders

Bharat Anand is Vice Provost for Advances in Learning (VPAL) at Harvard University and the Henry R. Byers Professor of Business Administration at Harvard Business School. He is an expert on digital strategy, corporate strategy, organizational change, and media and entertainment strategy. His recent book *The Content Trap: A Strategist’s Guide to Digital Change* has influenced digital change and transformation efforts at organizations worldwide. Bharat served as the first
faculty chair and Senior Associate Dean of HBS Online, Harvard Business School’s digital learning initiative, for which he helped craft the strategic vision, oversaw the design and creation of its digital learning platforms, and created one of its first online courses. He is a two-time winner of Harvard Business School’s Faculty Award for Teaching Excellence. As Vice Provost, Bharat is responsible for helping to chart and oversee the University’s strategic direction around teaching and learning, and he leads efforts to leverage technology to create more effective and inclusive teaching and learning experiences in residential and online teaching across the University.

Catherine Breen is the Managing Director of VPAL, a key leadership position responsible for leading and managing all the Department’s production and administrative staff and functions. She serves as a trusted advisor to the Vice Provost and works closely with him to plan and manage VPAL’s strategic initiatives and develop its short and long-term financial and operational plans. Prior to joining VPAL, Cathy served as the Chief Operating Officer for Ariadne Labs, a joint center for health care systems innovation that is part of Brigham & Women’s Hospital and the Harvard T.H. Chan School of Public Health. Cathy has also held various senior executive roles within Harvard University for the past two decades. Before arriving at Harvard, Cathy worked for five years in Moscow and Washington, D.C. at the World Bank managing privatization projects across multiple regions in Russia.

I. Glenn Cohen is the Deputy Dean of Harvard Law School, Faculty Director, Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics. He is one of the world’s leading experts on the intersection of bioethics (sometimes also called “medical ethics”) and the law, as well as health law. Glenn’s current projects relate to big data, health information technologies, mobile health, reproduction/reproductive technology, research ethics, organ transplantation, rationing in law and medicine, health policy, FDA law, translational medicine, and medical tourism. He created the free online HarvardX class “Bioethics: The Law, Medicine, and Ethics of Reproductive Technologies and Genetics,” which has reached more than 97,000 learners and was the faculty lead on Harvard’s Zero-L pre-matriculation course, used by more than 120 law schools and more than 20,000 students in the U.S.

Nancy Coleman is Dean of the Division of Continuing Education and University Extension. Nancy is a senior PCO (professional, continuing and online education) leader, deeply committed to technology and innovation in online and place-based education that creates access and opportunities for learners of all ages, types and socio-economic backgrounds. She is passionate about leadership and international education and is an enthusiastic supporter of women and girls in their personal and professional development journeys. Coleman brings diverse expertise to her leadership of the division, having previously served in roles in small and large institutions and in corporate and start-up ventures, and having taught both online and in the classroom. Before joining Harvard, Nancy held positions related to university extension and distance learning at Wellesley College, Boston University, and Keypath.

Suzanne Cooper is the Academic Dean for Teaching and Curriculum and the Edith M. Stokey Senior Lecturer in Public Policy. As the ADTC, she is responsible for all aspects of the Kennedy School’s teaching mission and works on a broad range of academic and faculty issues, including Educational Technology and the SLATE (Strengthen Learning and Teaching Excellence) program. In addition, she manages faculty teaching and administrative responsibilities and all data analysis regarding faculty and curriculum at Harvard Kennedy School. Suzanne previously served as Faculty Chair of the Master in Public Policy program, overseeing all academic aspects of the program. In addition, she served as Director of the Dean’s Future Committee on Teaching
Programs, providing a comprehensive analysis of Kennedy School degree programs, including an extensive survey of alumni career paths. Her teaching focuses on macroeconomics, empirical methods, and policy analysis.

**Erin Driver-Linn** is Dean for Education and a member of the faculty in the Department of Social and Behavioral Sciences at the Harvard Chan School of Public Health. The Dean for Education provides dedicated strategic leadership for the educational activities of the Harvard Chan School and plays a critical role in strengthening connections between SPH and other schools and offices across the University. From 2012 to 2018, Erin served as founding director of the Harvard Initiative for Learning and Teaching (HILT), a ten-year, $40 million initiative to catalyze innovation and excellence in teaching and learning across the University. From 2008 to 2018, Erin also served as Associate Provost for Institutional Research. Before joining the Office of the President and Provost in 2008, Erin was Associate Director for Research at the Bok Center for Teaching and Learning and taught in the Harvard Department of Psychology, where she received her PhD in experimental social psychology.

**Anne Harrington** is the Franklin L. Ford Professor of the History of Science and Director of Undergraduate Studies, specializing in the history of psychiatry, neuroscience, and the other mind and behavioral sciences. Anne is also Faculty Dean of Pforzheimer House (with her husband, Dr. John Durant). From 2007 to 2010, she was Department Chair, and in 2012-2013, she was Department Acting Chair. For six years, she co-directed Harvard’s Mind, Brain, and Behavior Initiative. She also was a consultant for the MacArthur Foundation Research Network on Mind-Body Interaction, and served for 12 years on the Board of the Mind and Life Institute, dedicated to cross-cultural exchange and collaboration between the sciences and various contemplative traditions. She was a founding co-editor of *Biosocieties*, a journal concerned with social science approaches to the life sciences.

**Lisa Haber-Thomson** is a Lecturer in Architecture at Harvard Graduate School of Design. Her research explores the intersecting relationships between law and architecture, and she is currently at work on a book manuscript that takes a multifaceted approach to the history of carceral architecture across the 18th and 19th centuries. In parallel, she is involved in several projects that address the architectural implications of contemporary legal practice. Coming to architecture with a background in experimental and nonfiction video, she teaches architecture studio and history courses with attention to the media and materials through which we learn—including those that allow for remote teaching. Her work in educational video production includes the pedagogical design and implementation of the GSD’s first fully online course, *The Architectural Imagination*, along with playing a leadership role in the GSD’s Taskforce for Virtual Teaching.

**Randall King** is the Harry C. McKenzie Professor of Cell Biology in the Blavatnik Institute at Harvard Medical School. Randy’s lab investigates the control of cell division and how this process is perturbed in cancer. The lab focuses on the ubiquitin-proteasome system, a complex network of proteins that controls the abundance of proteins in the cell. His lab integrates chemical and cell biological approaches to develop new inhibitors that may lead to new treatments for cancer. In medical education, Randy directed the first-year course *Molecular and Cellular Basis of Medicine* from 2003 to 2015. Randy subsequently helped lead the design and implementation of the new medical school curriculum called *Pathways*. He currently serves as the course director for *Foundations*, the first basic science course in the *Pathways* curriculum, which integrates science teaching across ten different disciplines. He co-directs teaching of cell biology and biochemistry, pharmacology, and cancer biology in *Foundations*. He also co-directs an Advanced
Integrated Science Course in Cancer Biology in the post-clerkship phase of the Pathways curriculum.

Karim Lakhani is the Dorothy & Michael Hintze Professor of Business Administration at the Harvard Business School. He is also the founder and co-director of the Laboratory for Innovation Science at Harvard and the principal investigator of the NASA Tournament Laboratory. Karim specializes in technology management, innovation, digital transformation, and artificial intelligence (AI). His research is complemented through his leadership as co-founder of the Harvard Business School Digital Initiative and as co-founder and co-chair of the Harvard Business Analytics Program, a university-wide online program transforming mid-career executives into data-savvy leaders. Karim has taught extensively in Harvard Business School’s MBA, executive, doctoral, and online programs and has co-developed new courses on Digital Innovation and Transformation, Digital Strategy and Innovation, and Laboratory to Market. He co-chairs the HBS executive program on Competing with Big Data and Business Analytics, leads various custom executive education offerings, and developed the HarvardX online course on Technology Entrepreneurship.

Bridget Terry Long is the Saris Professor of Education and Economics and the 12th dean of the Harvard Graduate School of Education (HGSE). A member of the HGSE faculty since 2000, Bridget is an internationally recognized economist whose research focuses on the transition from high school to college and beyond. Her work has shaped our understanding of the impact of affordability and academic preparation on access to higher education and on student success once there. She has studied the role of financial aid in increasing college enrollment, the effects of postsecondary remediation, and the impact of policies and programs on student outcomes. As dean of HGSE, she is committed to realizing the transformative potential of education as a driver for equity, justice, and lifelong success and wellness. A key focus of her tenure as dean is addressing the needs of the field of education by preparing the next generation of education leaders, scholars, and innovators who are ready to meet those contemporary needs, supporting cutting-edge research that aims to expand opportunity and improve learning, and offering an innovative, challenging, and supportive environment in which practicing educators can continue to develop within their professional spheres.

Anne Margulies was until May 2021 the Vice President and University Chief Information Officer at Harvard and was responsible for information technology strategy, policies, and services that support the University’s mission of teaching, learning, and research. Anne led Harvard University Information Technology (HUIT), which provides IT services to over 50,000 educators, students, and staff. Before returning to Harvard—she had been Assistant Provost and Executive Director for Information Systems in the late 1990s—Anne was Assistant Secretary for Information Technology and CIO for the Commonwealth of Massachusetts. In this capacity she developed and implemented a statewide strategic plan for IT and oversaw consolidation of a vast patchwork of agency IT organizations, operations, data centers, and networks into a coherent statewide structure. Prior to her service with the Commonwealth, Anne was founding Executive Director of MIT OpenCourseWare, MIT’s internationally acclaimed initiative to publish the teaching materials for their entire curriculum openly and freely over the Internet.

Martin Puchner is a prize-winning author, educator, public speaker, and institution builder in the arts and humanities. His writings, which include a dozen books and anthologies and over sixty articles and essays, range from philosophy and theater to world literature and have been translated into many languages. As the general editor of the Norton Anthology of World Literature, Martin
Dr. David H. Roberts is the Steven P. Simcox, Patrick A. Clifford, and James H. Higby Associate Professor of Medicine at Harvard Medical School (HMS), and the inaugural Dean for External Education at HMS. David is developing and implementing innovative educational programs for millions of pre-health learners, clinicians, researchers, executives and patients and their caregivers around the globe leveraging new technologies and advances in learning sciences. Since 2001, David has been a pulmonary and critical care physician at Beth Israel Deaconess Medical Center (BIDMC) and an award-winning educator of medical students, residents, fellows and faculty. David completed the Rabkin Fellowship in Medical Education and he previously directed both HMS preclinical courses and the BIDMC Principal Clinical Experience. He is both a member and the former associate director of the faculty development-focused Academy at HMS. David earned his bachelor’s degree in biochemistry, graduating summa cum laude, from Cornell University. He went on to complete medical training at HMS, internal medicine training at Massachusetts General Hospital, and a pulmonary and critical care fellowship in the Harvard Combined Program. David is in the second class of the Aspen Health Innovators Fellowship.

Michael D. Smith is the John H. Finley, Jr. Professor of Engineering and Applied Sciences and a Distinguished Service Professor at Harvard University. Mike recently spent 11 years as the Edgerley Family Dean of the Faculty of Arts and Sciences, leading Harvard’s oldest and largest school. His leadership was characterized by a deep commitment to undergraduate teaching, to faculty development, and to research, both fundamental and applied. He is delighted to be back in the classroom. He is currently developing new in-person and online classes and writing a book on teaching. He was actively involved in Harvard and MIT’s launch of edX, and he served on its board from 2012-2018. He enjoys exploring the interplay of technology with other fields, from the life sciences to business to education. Earlier in his career, Mike spent time in industry building a range of computing hardware for Honeywell Information Systems, and in 2001, he co-founded the data security company Liquid Machines, which was acquired in 2010 by Check Point Software Technologies.

Dustin Tingley is Professor of Government in the Government Department at Harvard University and Deputy Vice Provost for Advances in Learning. As Deputy Vice Provost, Dustin launches and oversees initiatives to improve teaching at and by Harvard. He serves as faculty director for both the VPAL Data Science and Technology team and the Harvard Initiative on Learning and Teaching (HILT). Dustin co-founded ablconnect.harvard.edu and has arranged numerous education and interdisciplinary conferences. He has published extensively in international relations, international political economy, climate change, data science and education. His book on American foreign policy, *Sailing the Water's Edge*, was awarded the Gladys M. Kammerer Award for the best book published in the field of U.S. national policy. Recent projects include attitudes towards global climate technologies and policies, and the intersection of causal inference and machine learning methods for the social sciences. He teaches courses on data science, international relations, and climate change.

Martha Whitehead is Vice President for the Harvard Library and University Librarian, and Roy E. Larsen Librarian for the Faculty of Arts and Sciences. Martha joined Harvard University in June
2019 from Queen’s University, where she served most recently as Vice-Provost (Digital Planning) and University Librarian. She was appointed University Librarian in 2012. As a library leader, Martha has worked to ensure that research libraries are deeply embedded in their teaching, learning and research communities, and that they are deeply engaged in developing an open, sustainable, global knowledge commons for the benefit of those communities and society as a whole. She recently served as a member of the Executive Committee of the Leadership Council on Digital Infrastructure and as a member of the Programs and Quality Committee of the Canadian Social Sciences and Humanities Research Council. Martha played a lead role in the development of Portage, a research data management network launched in 2015 by the Canadian Association of Research Libraries in collaboration with other research stakeholders. In 2019, Martha was awarded the CARL Distinguished Service to Research Librarianship Award.

**Staff**

**Graydon Clouse** was until recently the Program Lead for the Health Care Leadership Series at the Office of the Vice Provost for Advances at Learning (VPAL). Formerly Grady served as Senior Director for Strategy & Business Development at the Harvard Medical School Office for External Education. At HMS, he created relationships with corporations and industry organizations to create new executive education and non-degree certificate programs for mid-career learners in health systems, biopharma and healthcare IT companies. Grady has an extensive background in the healthcare services industry including experience as a product manager, marketer and general manager. He has also authored and contributed to a number of HBS teaching case studies on entrepreneurial healthcare companies.

**Jonathan Lehrich** is Associate Director of Strategy and Projects in the Office of the VPAL, where he collaborates focuses on university policy, administrative oversight, and strengthening teaching and learning at Harvard and beyond. Jonathan’s career spans over two decades in corporate and higher education. A graduate of Harvard College, he returned to Harvard from the Boston University Questrom School of Business, where he served for five years as associate dean of executive education. Previously he held a series of leadership roles at the MIT Sloan School of Management, where he led the launch and expansion of the MIT Executive MBA program.

**Leah Muse-Orlinoff** is a Project Manager at Harvard’s Office of the VPAL. Leah draws on two decades of experience in academia and the non-profit sector to advance VPAL’s research and analysis initiatives, develop strategies around diversity and inclusion, and empower cross-team collaboration. Leah is also a lecturer in Harvard’s Department of Sociology where she teaches courses on qualitative research methods and economic sociology.

**Advisors**

**Samantha Heath** is a Senior Consultant in Deloitte’s Higher Ed practice. She has over 12 years of higher ed experience ranging from curriculum strategy to large enterprise-wide systems implementations. She has primarily focused on creating administrative efficiencies through organizational transformation and technology improvements. Her experiences include business process improvement, functional technical design, organizational transformation, and change management.
Tay Jacobe was until recently a Consultant in Deloitte’s Strategy Talent Group. Tay enjoyed the mission-driven work of serving in the Higher Education sector, partnering with university leaders as they endeavor to improve organizational efficiency in a range of administrative functions. Tay’s broad range of experiences at Deloitte allowed her to develop a strong reputation for excellence in business process analysis, data analysis and transformation, and business communication.

Jessica Lawrence was until recently a leader in Deloitte’s Higher Education practice with 17 years of experience within the industry. She has successfully led strategic projects and initiatives at multiple research-intensive universities. Jessica has deep research administration experience along with policy development, business process improvement, talent management and operation model assessments. She has also assisted universities and research-intensive nonprofits with strategy involving full platform Cloud-enabled administrative modernization efforts.

Roy Mathew is a principal with Deloitte Consulting and leads the national Higher Education practice. He has more than 20 years of consulting and industry experience across both private and public sector clients. He has led many of Deloitte’s largest Higher Education transformation programs that span strategy, implementation, and operations. He is actively involved in developing the firm’s capabilities in new business models and innovative uses of technology.
Appendix B: Task Force Charge

The COVID-19 pandemic has stimulated an array of innovations in teaching and learning throughout Harvard and its global community. Faculty, staff, students, and alumni countered constraint with creativity, isolation with engagement, and interruption with accelerated collaboration. What are the longer-term implications of these changes? How can we ensure that we use the experience from this past year to think strategically and imaginatively about the transformative opportunities around teaching and learning across the University? And how can we align this thinking with Harvard’s mission and maximize learner potential? The Harvard Future of Teaching and Learning Task Force will explore these questions to identify what our university can do to deliberately and thoughtfully merge traditional assets and digital opportunities to strengthen education on our campus and beyond.

Comprised of academic leaders from across the University, and a range of disciplines and backgrounds, the Task Force will develop a report for the Office of the President and Provost. The report will identify a vision and strategic blueprint for Harvard in its post-pandemic development as a world leader in higher education. The report may recommend university-wide principles at multiple levels, alignment of initiatives, mechanisms to encourage ongoing innovation, and investments in new resources. The Task Force intends this report to enable Harvard’s many Schools, offices, and leaders to advance learning and teaching long into the future.
Appendix C: Hybrid Classrooms

HBS Hybrid Classroom

DCE Portable HELIX