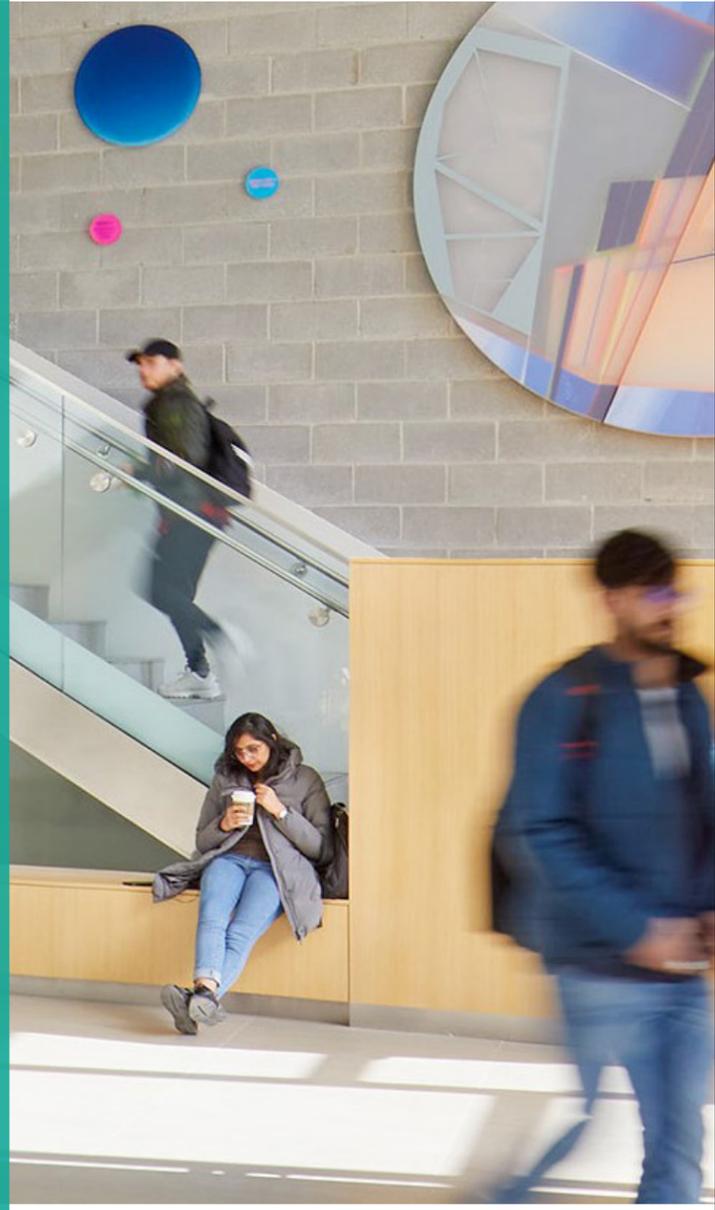


# 100 DAYS

## A SPRING REPORT CARD + SPECULATIONS ON THE POST-COVID19 CAMPUS

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### June 21, 2020, marked 100 days since universities around the world collectively flipped to remote learning.

By mid-April, once it was clear that it would be more than a 4 week pause, I started interviewing professors about their personal experiences with the sudden shift to the virtual classroom. My goals for this qualitative analysis shifted as did our understanding of the pandemic, and terms like “post-COVID” crept into casual conversation. As a parent, I watched my high-schooler adjust to learn-from-home as I continued designing a campus project in work-from-home mode. The longer the mode of physical distancing has stretched, my discussions - first with faculty (teachers) and then with students (learners) - lead to a deeper, more nuanced understanding of how the notion of the campus for higher education itself is morphing in ways expected and unexpected.

As an architect designing campus buildings for over 20 years, I am immersed in co-creating projects responsive to changes in pedagogy and other forces at global post-secondary campuses. This powerful watershed moment in global health, global economy and human interaction has accelerated changes that were long emergent. It has amplified specific deficiencies and strengths in pedagogical models and made institutions reevaluate current systems of learning and operations as they question their purpose and vision, forcing a deeper reckoning on the value of higher education.

**Has COVID19 killed the campus?** I think not. Yet it has set campuses around the world on a path of uneven evolution, with the risk of shedding the good with the extraneous without eyes-wide-open rethinking and responsive planning. My two-part qualitative analysis details the methods and strategies followed by individuals – professors, students and administrators in twelve countries – as the pandemic dramatically changed their way of learning and teaching in Spring 2020. It then speculates out-of-the-norm possibilities which campuses could explore as they navigate the uncertainty of Fall 2020, and address paradigm shifts responsive to the core question of what defines a post-secondary education.



- Students
- Faculty and Administration



## PART I: A Spring Report Card in 40+ Global Conversations

**Based on discussions with 45+ educators, students and administrators at 40+ campuses in 10+ countries – from small liberal arts schools to large research universities - the overall report card for the Virtual Classroom this Spring receives a grade of B-, if one is generous.** Once sorted for subject area, culture of institution, nature and scale of classes, comments range from “I loved it; I didn’t miss a thing (student in small post-graduate course)” to “Spring is a write off; we just need to get through it (professor at an elite research university)”.

A range of impacts is evident based on stage of education; generally, students in the first and fourth years of university were affected the most, the former since they were just forming friendships and imbibing school spirit, and the latter because those rituals and community bonds were so suddenly snatched away from them. Students and educators had diverse, individualistic experiences, strongly influenced by the culture of the institution. While the teaching experience varied greatly across disciplines and countries, the absence of in-person teaching and spaces of interaction was acutely felt acutely, as was the need to recalibrate modalities for future virtual or hybrid education. Strikingly, both students and professors noted that activities and experiences outside the classroom defined their campus experience, yet these could not be replicated online in Spring and will not be the central focus as virtual campus extends. This will be one of the biggest hurdles for the incoming class, of whom many are considering a gap year, disappointed about having to forgo life-moments like campus orientation, living independently for the first time (on and off campus) and making new friends as they embark on their independent life journeys. Incoming students also noted that their cohort accepted/rejected school offers based on its region’s response to the pandemic, availability of safe and reliable housing and the school’s clarity of academic plans for the upcoming semester.

*“The first semester was about getting introduced to university life and the squash team helped with making friends. I was just getting comfortable with college life and it’s now a long break before we can return.”*

*“It’s weird that the last class before Spring Break was the last one ever... Having enjoyed undergrad, not having the chapter end was bittersweet....”*

*“This was a crisis response... not digital learning. All the courses were developed for face-to-face delivery, and many teachers and students struggled and then resigned or checked out towards the end. This kind of teaching cannot be normalized. If it must continue, the university must create professional spaces for such delivery.”*

- Students
- Faculty and Administration

FACULTY – PER PROGRAM



STUDENTS – PER PROGRAM



- Art, Design, and Social Studies
- Science, Technology, and Planning
- Business, Marketing, and Finance

LEARNING LEVEL



- Incoming
- 1st Year
- 2nd Year
- 3rd Year
- 4th Year
- Post Grad/Con ED

## Consistently Awkward - A before and after analysis

*“We cannot continue on in these parallel alternative worlds. It is hard to be so individual and siloed, where it gets harder for everyone as empathy recedes.”*

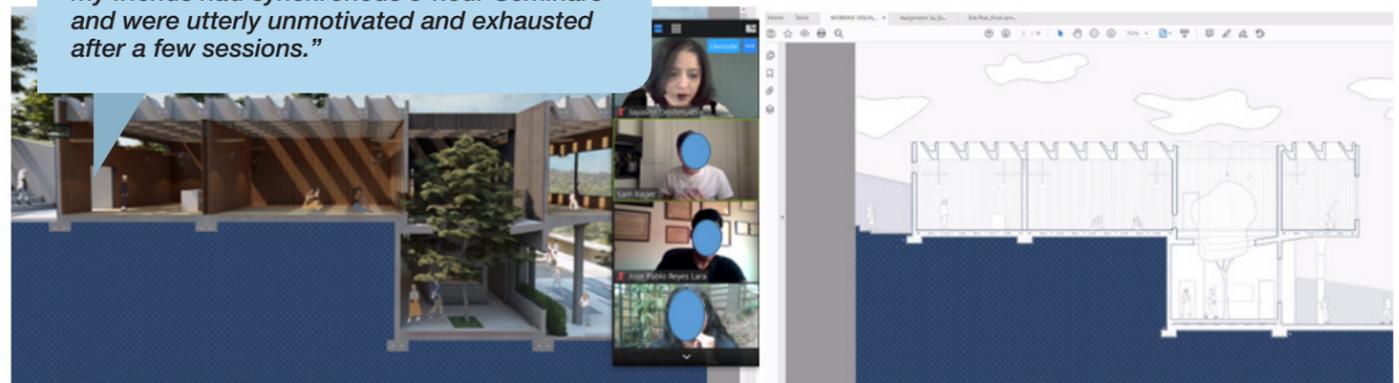
*“Even when I am in my apartment off-campus, I am still in student-mode; now that I am in my home country, I am not a student... I am not even on vacation. Studying is just weird at the moment.”*

*“My Humanities class requires discussion and was held virtually. But while talking on a laptop for poem analysis, conversation just cannot flow... it’s consistently awkward.”*

*“My courses’ teaching style is very interaction-based... the classroom mattered. There was high interaction and participation, even in lectures. Afterwards, with the logistical challenges of a synchronous Zoom lecture, we just had a pre-recorded class and all interaction simply disappeared. But some of my friends had synchronous 3-hour Seminars and were utterly unmotivated and exhausted after a few sessions.”*

Around Friday the 13th March, campuses across the globe shifted overnight to virtual mode. For many students in Europe and North America, Spring Break turned into a “vacation from campus” which still hasn’t ended. After a short break, students and teachers returned to the virtual classroom - **some taken with the novelty of it and others with uncertainty - frequently mirroring their ease with technology, reliable access to independent devices and broadband, and the ability of their home’s physical setting to provide a degree of focus and engagement.**

There are also other challenges - students in the quarter system and currently in summer school revealed the obvious impediment of building rapport from scratch with unknown educators and fellow students in a virtual setting, something the Spring Semester did not have to contend with. Also, while even large lectures can foster active discussion in person, this has proven particularly challenging in the virtual classroom, where people talk over each other until they silence themselves. Some students noted that as much as they enjoyed listening to podcasts at their own pace (“versus zoning out in a 2-hour class”), the time gap between listening and virtual office hours meant that they seldom approached their professors afterwards. These challenges were often compounded for international students, many of whom returned to home countries in disparate time-zones, and were frequently unable to attend synchronous lectures or discussion groups, and found themselves further isolated and out of step with those around them.



**Dematerialized:** Virtual Final Thesis Critique with students, professors and visiting critics in 6 countries.

## Didactic Learning - Lectures big and small

The simple inference made when campuses switched to their online selves is that lectures and seminars can be successfully transferred to virtual platforms – look at MOOCs and distance education! – while labs and studios cannot. Looking back, the consensus is that small group lectures and discussion-focused seminars can be synchronous, when well supported by various virtual platforms with the capacity for full-group exchange and breakout sessions. Conversely, larger lectures – particularly foundational courses relying on knowledge transfer without Imp discussion - are better suited to asynchronous learning via pre-recorded lectures and virtual office hours with faculty and/or teaching assistants for one-on-one clarifications.

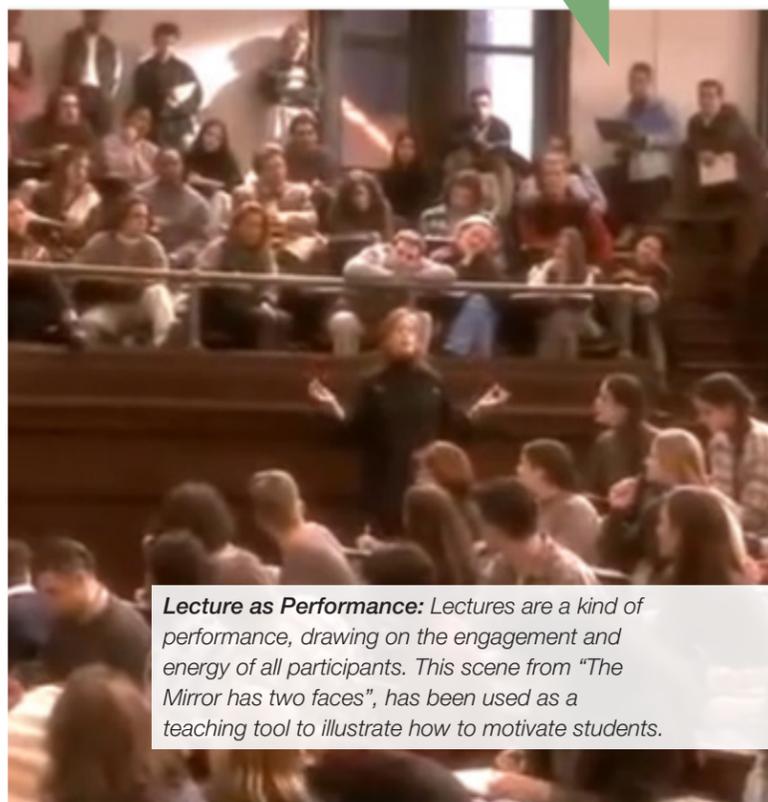
There are nuances to these generalizations. While often successful, virtual lectures are limited in subtle ways. **One student, a visual learner, explained how watching an (organic chemistry) professor write and draw a complex process on a whiteboard aided her understanding far more than watching a video of him talking to a slide-deck.** Another student observed that a noted philosophy professor who was most sought after in person, was utterly flat and unengaging in a recorded lecture; something even he acknowledged ruefully. As much as learning is a multi-sensory and dynamic process, and teaching is responsive to multiple learning styles, should physical distancing become a recurring requirement or virtual learning become prevalent, one imagines that professional development, sophisticated technology and operational assistance with setting up digital teaching/learning tools – as is commonplace at several elite schools – will have to be engaged to improve these aspects.

Importantly, the virtual experience attempted to recreate the classroom online, not the campus. The learning that occurs in informal discussions outside the classroom, the growing up fostered by daily rituals of going to class, the innovation bred through unexpected collisions, the community formed in between classes... wasn't as easily replicated. For adjunct faculty, there was often an abrupt loss of community and informal interaction; no longer part of departmental meetings, nor running into each other unexpectedly and unsure of future engagement, the loss of belonging can be profound. **Certainly, there is anecdotal evidence that online webinars and discussion platforms spawned connections to those a thousand miles away, but the comprehensive, immersive experience of campus education remained elusive, and may remain out of reach as Fall semesters begin in mostly-hybrid modes.**

*“All the little things that I didn’t realize I appreciated before - how we sit around the table, which seat I take in the lecture hall, interacting with my professors face to face is a completely different experience.”*

*“I realized that I had to turn myself into a self-sustaining person in order to succeed in this digital world...”*

*“My course’s material is challenging even in person. Right through this Bandaid teaching experiment, there was intense learning for me too, questioning pedagogical models, creating new lessons that might work, preempting concerns while preparing for a different way of teaching.”*



**Lecture as Performance:** Lectures are a kind of performance, drawing on the engagement and energy of all participants. This scene from “The Mirror has two faces”, has been used as a teaching tool to illustrate how to motivate students.

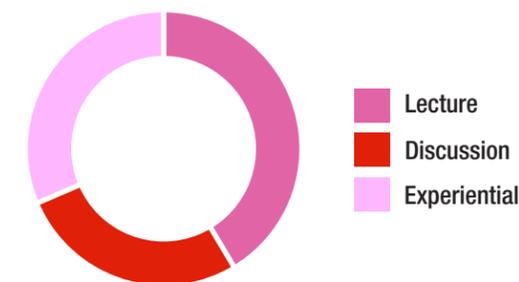
## Hands off Hands on - How to learn hands-on when it’s time for hands-off?

Experiential learning, i.e. learning-by-doing, is the backbone of education in science, technology, art and design. In recent years, even disciplines outside STEAM have embraced hands-on learning as part of their innovation-oriented learning culture. So how did lab and simulation-based learning in engineering and health sciences, and studio-based learning in art and design fare this Spring? In a very limited manner in science and technology, where equipment-intensive laboratory and clinical environments could not be translated to online experiences. Several research students and graduating seniors anticipating Spring internship placements and practicum were impacted negatively, having to delay graduation in some cases. **Art and design programs with studio-based learning and maker culture had varying degrees of success, heavily dependent upon the creative improvisations of professors and students alike, yet rueful about the limitations imposed by the digital platform where “subjective conversations just don’t work since they are one way, with an I-talk-you-listen manner... there are no grey zones”.**

At a European Design School, a student of fashion design noted that their traditional mode of teaching and learning is one-on-one and intensively focused on developing the vision of individual designers. In this context, one-on-one interaction between students and instructors translated fairly easily to a virtual medium with coursework realigned to accept limited materials and lack of tactility; yet this was clearly viewed as a stopgap arrangement that would revert to the studio-based individual critiques the moment physical distancing requirements were eased. As with other programs, it also varied in spirit and depth alongside the technical prowess (or reluctance) of classically oriented professors. Where hands-on making, multisensory expression and Socratic discussion-based evaluation is at the heart of learning, in-person learning will remain the preferred modality. Meanwhile, I imagine this school designing fanciful wearables – personalized masks, wide-brimmed hats and hooped devices that would allow its wearers to maintain safe distances from each other in style.

*“Zoom became the intervening platform. With a large group it’s like a performance; it is rather odd to always be on show.”*

*“It’s all been the same kind of interaction. We doze without a variety of experiences.”*



TEACHING/LEARNING MODALITY



**Hybrid Stage:** Video snapshot of a virtual end of term show for fashion design, where space remains a container, organizer, and active frame for creative expression.

## The Table in the Middle and Tales from the Virtual Classroom

The loss of indirect teaching and immersive learning which occurs simultaneously and naturally in person was acutely felt. Its absence was more pronounced for studio-based pedagogy where discussion-based critiques and peer-to-peer learning is emphasized, and where multiple engagements of listening in, observing from afar, or drawing in students with like-minded ideas would've been actively enabled in person. As much as the Zoom grid screen of faces has become emblematic of the virtual classroom, issues of privacy, access, equity and plain disengagement prevented replicating but a fraction of exchange characteristic of a dynamic classroom and studio.

**Educators spoke of being oddly on display, turning into the sage-on-the-stage as they faced a screen of blank squares with names rather than persons, and how this set up a forced structure, hierarchy and one-way host-based communication that they had long abandoned in their classrooms.** Break out rooms for small group interaction and studio critiques did alleviate this, and small groups with already-established rapport worked best in a virtual setting. As I write this, "Zoom fatigue" is setting in just as global institutions announce that such platforms will continue as cornerstones of teaching/learning in the foreseeable future. That said, several educators explored out-of-the-box technology platforms for classroom interaction and to recreate informal intersections to enhance peer-to-peer learning; knowing that remote learning is to extend indefinitely has ignited them to reshape formats of teaching for Fall and beyond.

*"Teaching is a relationship... I am a guide."*

*"How much students actually learn is the litmus test. We are all in a giant experiment at the moment, and the outcome is unknown."*

*"Our studio culture is constant, immersive, fun, social... a dose of everything. Everyone is working but engaging. Now, we try... a bit harder to help each other. But then it's a lot easier to show your work to others... like because it's all digital you can show your progress to your parents."  
- Or for jobs, said another.*

*"In my school some people were more comfortable with being seen; the guys mostly turned on their cameras, the girls didn't. Online interaction can be meaningful sometimes, but I greatly missed the atmosphere of school and the direct interaction with professors and classmates."*

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VirBELA builds immersive virtual worlds for events, learning, and work.

**GET STARTED FOR FREE**

*How immersive? Even before the pandemic hit, various virtual platforms like as this one (VirBela™) sprang from gaming style interactions promising more effective virtual workspaces, mostly for the tech industry. Will these platforms shape successful learning landscapes?*

## Poetry of the Campus - What did you miss the most?

*"One (Business) teacher started every class with a poem... she didn't online, and then I missed it."*

*"I missed being there! My social life! When this is all over, it's not the courses that we will remember..."*

*"I missed the ritual of going to class. I'm very organized before and after class, about seeing and talking to friends before and after...I didn't realize how essential it was to my school-life."*

*"I've missed my students. Period."*

*"Now that we have been denied physical access, we are all being asked to revisit what matters most. People contemplating the hoopla around the whole campus experience are being asked to articulate what they missed, and also, what is a university?"*

It doesn't take research to know that the university experience is best remembered for friendships and community, emblematic of a time in the lives of most people when they are gaining independence, building lifelong friendships, discovering purpose and their true selves, mostly in the spaces between classes. **Campus life is filled with beloved daily and weekly rituals; most students missed the structure and clear expectations offered by scheduled classes, intertwined with the rhythm of friendship and shared experience.** The impact of following greatly-changed, individual routines rather than collective lives upon student engagement and learning outcomes will likely be the topic of research in the upcoming months. Some students, who self-identified as being procrastinators and less self-motivated, struggled with a loss of focus, and many noted that the shift in the cadence of university life to constant personal/family spaces required severe adjustment. One student simply missed the walk to class through a pretty campus at spring time, and that she hadn't expected to miss seeing her instructors, nor recognized "the full value of face-time".

While today's students are digital natives, they perceive the inherent value of real interpersonal engagement for meaningful experiences. Educators recognize that a multiplicity of formal networks and informal interactions occur frequently and naturally over the course of campus life, supporting learning and fostering cognitive development, collegiality and general well-being. Transferring the layered weave of campus life to a virtual reality oriented "Second Life-2020", is particularly difficult.

Lost in exclusively-virtual-space interactions is informality, nuance and often... serendipity. While further digital platforms and engagement is inevitable, broader considerations require attention: for instance, technical issues and equity limitations of widely adopted digital platforms has created hierarchical interactions where etiquette rules, and activity is choreographed in the best of scenarios, and access is limited or even denied. When interactions attempt to go beyond one-way information providing – which much of post-secondary education has evolved to do – these limitations become critical and impact outcomes. **The promise of mass education has been access to seat of learning for all; though digital platforms promise wider access, should physical spaces for in-person and experiential learning become ratified and available to only a few, it will set up fundamental divisions between haves and have-nots, those who are in and those who must stay out, with unintended, wide ranging impacts.** At a time when social equity has emerged as an urgent conversation across public life, the hope is that structures of education – and therefore campuses as their platforms – prioritize strategic recalibration to lean towards social change through broad and deep access to (excellent) affordable education to those at the margins who stand to gain the most from it.

**New forms of poetry:** People are keen to be back together, and new forms and rhythms of engagement will likely emerge.

## JUGAAD! - Getting around the real-virtual obstacles & informing future learning

*Jugaad* is slang for a clever workaround, typically in a resource-scarce context. When asked about how they worked around the obstacles of remote education, most students focused on getting around the lack of informal interaction and community, rather than on coursework. Several students and professors kept community alive despite physical distancing – for instance, an international student with classmates/roommates spread worldwide played videogames all day, mostly to stay connected (since synchronous learning was not possible). Other students spoke of creating informal study groups to simply “get through the work”, particularly with respect to assignments and exam preparation. Student evaluation was seriously challenged, and university-lead initiatives included digital proctoring, easing of grading, and shorter exam units to prevent cheating. By contrast, where open book tests replaced traditional timed exams – some held in cold athletic arenas! – these made exams enjoyable. **Not only was exam-stress greatly reduced but this format also allowed them to savour the material and demonstrate holistic understanding, rather than to “gorge and purge”. The reduced stress and its corollary benefits to mental health alone deserve consideration in the future, given that it is an alarming and growing mental health issue across campuses, and that knowledge-acquisition is no longer the central construct of higher education.**

For many professors this emergency-education mode – called triage or band-aid teaching! – forced them to experiment with and experience virtual teaching in a broader, more sustained manner than they had previously done. An inventive professor of design set up a virtual “students only late-night studio” for spontaneous interaction, mirroring flows of creativity and group-motivation that studio culture fosters. A professor of cognitive psychology set up an online discussion board, which students found was a safer platform for tabling deeper questions than they would in the classroom. She was pleasantly surprised to find that this not only shone a light on gaps in the understanding of students, but also potential gaps in her virtual-teaching, all the while engaging students in discussion. At a campus with students from distant areas with limited access to technology, the university distributed laptops to be shared with small clusters of students and set up ways to provide learning via mobile phones that are now ubiquitous. **One can summarize that while remote teaching was a hurdle for some, educators/institutions who embraced opportunities to explore varied remote teaching methodologies, recognizing that this critical shift towards hybrid teaching is here to stay, gained the most from Spring’s teaching experiments.**

*“I leaned on the friends’ circle by setting a time for Zoom calls with all of us working side by side. Having company and doing the same thing helps with motivation and mental health.”*

*“Since this is a time to stay in since we cannot be outside, I found myself being more internal. A time to reorient and reconnect. I arranged my room with collages to let me be reminded of the outer world I loved. And I tried all kind of online experiences that I would never have done before. Like online meditation, which had a weird, different value! And I got a kit for resin-modeling delivered to the house, so my room was my studio.”*



**Craft Mine:** Across North America, students created institution-specific servers to recreate their campus in Minecraft™, allowing students to experience a sense of community that has been abruptly taken away. As time goes by, these virtual campuses host events, including graduation and college “tours” for incoming students.

## PART II: All The Little Things - Speculations on the Post-COVID Campus

**Half my dialogues occurred before it was clear that Fall would be a mostly-online experience, and students and faculty were keen to return to campus. As one student put it, she was headed to her dream program at her dream school in her dream city and was praying it would be in person, saying that “Zoom-School” would well... “suck”.**

As institutions plan for reopening, their focus is on layering in core values like academic integrity, research excellence, equity and access and other key aspects that define their ethos, in addition to operationalizing the twin virtual and physical worlds of the campus. This is an immense undertaking, requiring intensive and extensive collaboration, imagination, careful planning and scheduling across university departments, academics, administrators, and student services during ongoing global uncertainty and large regional variations in public health concerns. Throughout June, campuses have remotely-engaged with their communities to frame strategic plans for a return to campus and are sharing these to reassure students and staff, while guiding socially-minded human behaviour amongst their large, diverse communities. Facilities teams are evaluating campus spaces with regards to capacity, extended daily schedules and staggered instruction, fresh-air ventilation rates, humidity controls and filter upgrades, provision for appropriate circulation flows and physical distancing, rigorous cleaning and health-safety protocols, varied models for student residence life, and temporary design interventions like cheerful signage and environmental graphics which will provide clear instructions of use. One innovative scheduling model based on a goal of bringing students back to experiential learning spaces at least once a week places vertical groups of students distributed throughout the campus – i.e. imagine a studio where first year students occupied the same designated seats each Monday, with other designated sets of spots for second year students who attended the following day, and yet another set for third-years and so on; they even imagine cross-year learning through observation as the term progresses.... Look, but don’t touch, being the mantra, naturally.

### THE NEXT HUNDRED DAYS:

**We could call this a gradual Re: Turn or Returnrrrrrrn, cognizant that there will be no sequential or predictable path for planning or implementing a physical return to campus. Various strategies will be planned, tested and improvised upon across the world, responsive to campus scale and curriculum requirements, to broader socio-economic and climatic factors, and to virus testing, tracing and control in their regions.**

Many art and design professors expressed the sentiment of studio-based learning as an “unscripted world of possibility”, something that virtual studios could scant foster. In other programs too, where layered, nuanced exchanges within and without the classroom were lost, pathways to a gradual, safe, curriculum-supportive, confidence-instilling return to campus are being embraced in most parts of the world. Should Fall learning be conducted virtually in its totality, the benefit of early rapport which even the largest Spring lecture-classes could lean upon when they switched to online mode, will be absent. This is something current summer programs are already grappling with, lessened in impact only since many programs host smaller cohorts of students. Furthermore, whether assisted officially by their institutions or not, motivated educators are getting adept with employing multiple remote learning techniques – including tips from successful YouTubers and their children’s TikTok video clips – as they improve their virtual teaching methods.



**Carnavale Venezia all term?** It isn’t absurd to imagine that some schools (some programs, some students) will embrace the potential theatricality of custom face masks, highly choreographed movements and physically-distant inhabitation, if only to make the most of the brief times that in-person engagement is possible.

A limited return to campus includes extensive guidelines around physical distancing and infection control. Planning for in-person learning centers on student experience to upholding curriculum delivery and research continuity. Limiting the number of students learning in person to those requiring specific experiential learning environments and keeping most didactic teaching/learning online is the working baseline. Some schools – particularly in the southern US states and some in Europe – are planning for a more robust return to campus, with detailed diagrams guiding appropriate arrival and circulation flows, and clear directions on how student residences, dining halls and other student life spaces are being modified to encourage students to enjoy a fuller campus experience. Classroom and social space capacities are being analyzed and adjusted, one-way circulation routes with appropriate signage being set up, ventilation systems are being better calibrated and upgraded alongside related calendar shifts to start and end the Fall Semester to maximize “good outdoor weather days” or provide later starts for better planning. And naturally, hand-sanitizer stations and Plexiglas dividers will be omnipresent. Smaller, private institutions might even look at touch-less fixtures and timed elevators with stops at all levels - adaptations that are commonplace amongst strict Sabbath-observing communities. Furthermore, each campus is responding to varied scenarios of physical transportation to campus. Where some student communities are tightly contained within college-town boundaries in the US, most students in other countries rely on viable public transit and other modes of transportation, which have become a critical determinant of the safe, reliable, return-to-campus equation.

**The pandemic has also upended the trend where attendance at universities swells in times of global economic slowdowns. It is evident that reputation matters: despite large international student bodies and the uncertainty surrounding their return to campus, elite institutions with global reputations will likely weather this current storm. Similarly, as the global economy painfully reemerges, it is anticipated that more agile, work-skills oriented community colleges and unique vocational institutions will fare better than similarly sized university towns and liberal arts institutions.** Health Sciences and Medicine-related schools have reported a surge in applications globally, while liberal arts programs continue to remain vulnerable in terms of enrollment. At the time of writing, several European institutions are in the planning stages for fairly robust in-person classes in Fall; return to campus plans vary significantly from one region to another in North America based on local guidelines and pandemic-control, China and Malaysia are planning re-opening campuses in a limited way, and India is struggling with re-opening, with a national mandate to postpone reopening of in-person learning until mid-August even in lesser-affected parts of the country.



**Tech-engaged learning:** Some programs are already engaging deeply with AR+VR to construct new forms of learning and outcomes. Fall's extensive hybrid learning experiments are likely to exponentially grow exploration and collaboration across these platforms.

*“I really hope to be back at school in Fall. I don't know how my courses will run yet, but my school is going to offer 4 types of classes – in person, hybrid, and virtual, and then a hybrid flexible version where students can choose whether to attend in person or not.”*

*“There has already been a strong trend at campuses to push education online, and this is only going to strengthen that. University educators need to retool those resources before massive online providers take over those spaces as campuses tackle multiple challenges all at once.”*

*“As this period of isolation extends, at a broader scale, social distancing will linger in the collective psyche of people. Campuses contain all the ingredients of vibrant urban spaces, but for now, just as nature has taken over the city, our engagement on campuses will have to be guarded, sanitized... passive. We may effectively be limited to people watching, rather than engaging.”*

## Finding Themselves Across Seven Seas

*“When I am in Berkeley I am homesick for London, and now I am homesick for the campus and the Bay Area, which are a huge part of my university life and experience. If I can square away a return to a student apartment with 2-3 others, even with hybrid learning, I would want to be back there with my friends at campus.”*

*“In March, my school worked hard to help us transition online and was sensitive to time-zone challenges, but I was still unable to participate in many synchronous activities and had to do separate assignments, so I'm not sure how well I learn certain things. I'm even more unsure about how they well they will accommodate us next term; things are still very unclear and I don't know whether I can or should return.. but I really want to.”*



**New destinations:** East Asia's ability to rein in the virus quicker than other parts of the world is creating new possibilities for international students to reexamine its high-ranked universities as places to seek international learning experiences.

The massive surge in the internationalization of education over the past decade at globally connected institutions, particularly in the UK, US, Australia and Canada, has seen their geographic reach widen greatly. The pandemic's drastic impact on travel and immigration means that these apparent success stories are being overturned – campuses are seeing drops or delays in acceptances, and a growing set of courses are being canceled owing to a poor international enrollment, especially in STEM and Design programs. Where one would think the resultant smaller class size may merit institutional support and be easier to implement, financial and operational considerations outweigh this, with increased reliance on adjunct faculty further complicating difficult decisions. The key issues facing international students include closed national borders, concerns about second wave infections requiring future lockdowns, and the uncertain safety provided by student residences.

**Some scholars of internationalization patterns predict that the movement of international students from east to west, from the global south to western countries, may well be changed in the future.** Countries like Singapore and South Korea have strengthened their international reach in recent years and may host a larger share of international students from Asia as they look beyond English-speaking destinations. Also, elite private schools in countries like Turkey and India who emulate the choice and whole-person development focus of western campuses, are now getting a deeper look from first-year students as they await taking critical board examinations that will determine their future. For western campuses with high international enrollment, this can mean two potential new directions. In the short term, their hybrid approach may be more nuanced – distance learning with smaller sections for time-zone-responsive discussion-based learning, double sections for synchronous virtual lectures, and a combination of in-person and remote teaching for local students, all impacting how physical infrastructure is utilized. These formats are faculty, operations and planning intensive, yet worthwhile to provide better learning outcomes, curriculum integrity and provide better access to all students in the long run. Another parallel strategy could include partnering with regional organizations to meet the educational objectives of local students, thereby aligning with the original objectives of land-grant institutions and provincial funding models and reducing reliance on international student enrollment.

## “Create Worlds! Shape Your Reality with Complete Freedom in a Virtual World”

*“It is not just about synchronous teaching or not. Digital platforms are labour intensive without clear positive outcomes. Digital learning is intensive without the chemistry between physical beings. Students want to be “off”, off-screen and offline too, and we have to find new ways to teach them that way.”*

*“I don’t see why one wouldn’t continue to adopt digital learning long into the future. If I can access excellent learning experiences from the world’s best universities from my living room, why wouldn’t I seek those? May be I could choose to go one semester and stay home the next learning from different sources.”*

*“The first year intake is at the center of consideration across all institutions, since it is the only place where campuses can purposefully control student enrollment and attendance, yet it is also the most important for academic sustainability. Their experience is also the most difficult to manage since students are unfamiliar with the campus and haven’t established rituals of engagement and movement. We are focused on engendering their in-person experience with great care, with regards to scheduling and guidance.”*

This is the slogan for Second Life™, a platform for user-created, interactive 3-D worlds promising endless connectivity and engagement. Their platform now promises eligible educators “immersive teaching and real-time collaboration” and institutions are promised safe campuses with discounts on “land costs”. Yet, as one student said, echoing the sentiments of many: Nothing virtual should be permanent; I wouldn’t want any virtual experience to continue endlessly.

It is generally recognized that remote education is here to stay in various capacities, therefore all well-developed virtual platforms deserve a second look. The pandemic has forced some and motivated others to better explore hybrid teaching and learning. It is most effective when it is anticipated and embraced as it has been at the Arizona State University, rather than thrust upon institutions due to sudden, unexpected circumstances. Now, several institutions are actively initiating hybrid structures of learning not only across courses – some taught in person and others virtually – but within each program as well. **In-person teaching allows educators to take all kinds of learning styles and student personalities into account, and the classroom/studio/lab setting allows them to calibrate their teaching to reach all students, as required by mass higher education. Where experiential learning is essential, virtual teaching will have to get creative – smaller cohorts for in person experiments and activities will be combined with synchronous demonstrations by educators and augmented by asynchronous learning of theory via recordings and other digital materials.**

Social distancing guidelines have suggested that about 15-20 % of the student body can be accommodated on campus, mainly for those activities that cannot be successfully translated to virtual teaching. Several campuses are considering a sequenced one-day per week on-campus presence for all students as a starting point for planning. The next term (terms?) is not about making a binary Either-Or selection of teaching modalities, but rather conceiving, beta-testing and refining creative solutions for Both-And Learning experiences. That said, the longer that physical distancing extends and return-to-campus guidelines remain unclear, some students getting adventurous in shaping their educational journeys. This is particularly true for out-of-state and international students who find themselves beyond borders that may limit their access to learning in person; facing the possibility of an all-virtual semester, they are exploring diverse possibilities with multiple institutions simultaneously.



**Virtual Avatars for all:** As persons of all generations expand their social media presence and explore varied manifestations of themselves online, platforms once directed to the tech industry alone are poised to greatly expand their adoption by learning institutions.

## Agile Structures and New Forms for Reinvented Education Modalities

**With all this change in the air, what aspects of teaching and learning are most likely to change?** It appears that certain virtual teaching modalities, like the pre-recorded lecture – the earliest forms of which were created by Stanford University in response to the continuing education needs of Silicon Valley thirty years ago - may become a widely adopted teaching device globally, with cellphone-versions becoming increasingly common as well. It allows students to work at their own pace, especially on complex topics that require multiple listenings, and democratizes access to a wider community. Does this spell the end of 300-500 person lecture theatres for foundation credits at large universities? Possibly. More likely, it may mean that such courses will be available in more than one format, offering students the choice to select between virtual or in-person modes to suit individual learning styles. One student candidly revealed that first-year students go to large classes to “check out other students” as much as to meet a program prerequisite; older students are better acclimatized to university life and self-motivated, and sometimes prefer the virtual lectures, thereby requiring smaller

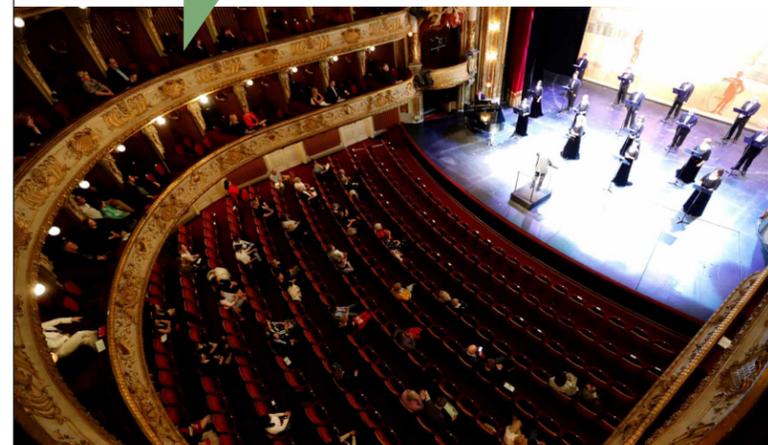
in-person spaces. In the near term this suggests finding ways to restructure lecture halls to be flexible and divisible into smaller spaces, thereby expanding scheduling possibilities.

**The counterargument to wholesale spatial modifications to key campus buildings is that it underplays the role of self-motivation for students; one Provost pointed out that already, the well-intentioned approach of the flipped classroom is undermined when students are not prepared prior to class.** The pandemic has forced better time-management onto sometimes reluctant students, and faculty have made adjustments for varied levels of engagement with mixed results. A permanent virtual classroom for massive first year programs with pre-recorded lessons will have a subtle but important impact on campus culture and student interaction. It will be student-centric in an unintended way, allowing learners to work at their own rhythm, while relying squarely upon their self-motivation and good time-management skills, skills that are often still nascent in first- and second-year students.

Concurrently, a new array of spaces oriented towards remote learning may pop up across campuses and beyond, including mobile pack-away structures inspired by tepees and yurts responsive to changing requirements and weather patterns. Most campuses have limited facilities and technical support for remote programs, and these may be over-subscribed by faculty in future terms. In the future, better tech-enabled spaces of varying scales for digital recordings and bookable sandbox-type spaces for synchronous learning and other student life events, will need to be part of the new palette of remote-engagement-oriented spaces available to the campus community. In their absence, in cities like London and Toronto, enterprising small business storefronts have set up drop-in art studios and recording booths which are quickly being rented out to educators looking for better equipped demonstration spaces outside their homes. Similarly, VR Caves and Digital Simulation Labs for virtual reality and augmented reality (VR and AR) based learning - currently a small, still-new subset of spaces at mostly health sciences, engineering and design schools - will likely multiply and immersive learning experiences entirely framed in 3D virtual reality worlds will not be unusual five years from now.

*“The appeal of in-person education endures since it makes learning palpable, but if you just hit <reset> post-vaccine, you will be left behind.”*

*“We want to design fall teaching in a manner that allows students to return to campus and get the whole experience of education. It’s essential to their learning, and teaching will have to be nimble-footed to flex between being a physical community and going online, as required.”*



**Performance spaces show the way:** Opera Houses (this one in Zagreb, Croatia, image credit: Guardian) and movie theatres are getting creative with distanced-seating plans to engage audiences, recognizing the value of live performances. What lessons do they hold for staging lecture-style learning?

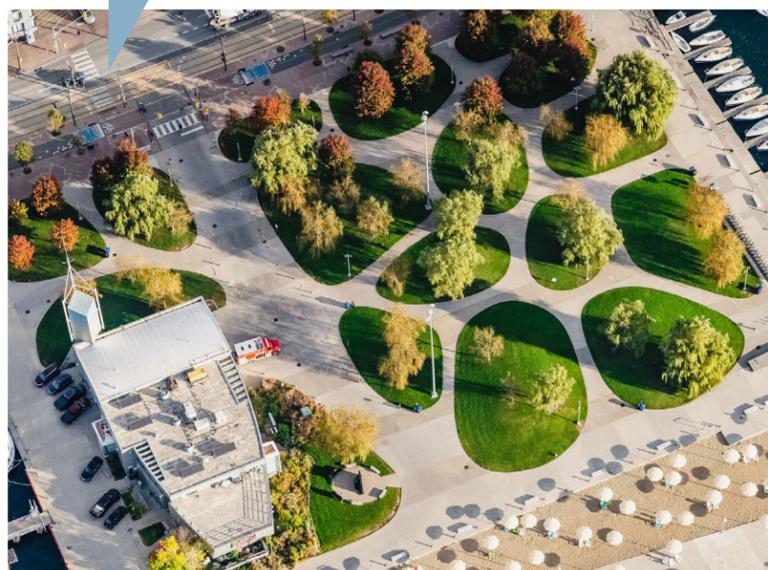
## A Return to Medieval Times Before the Renaissance

Some campuses like that at Cambridge University are defined by their Colleges, whose functional and spatial experiences stretch beyond the most progressive live-learn environs at North American campuses. Where a collegiate framework is the foundation of the learning ecosystem, students are admitted to residential colleges not the university. They live in the cluster of courtyard-centric colleges, and dine, socialize, learn and study within them. **Tutor-lead small group discussions and learning is a key attribute, and this ethos may provide a more robust backbone to their return-to-campus initiatives.** Short eight-week terms define the Cambridge experience, and the university's preliminary guidelines on return-to-campus suggest intensive learning periods centered around small group learning, discussion and tutorials at individual colleges, all large lecture classes limited to virtual interaction, with strict guidelines on behavior and movement through campus. Clarity of plans is key for many incoming freshman/first year students, who are now modestly excited to have a picture to reframe their anticipation of college life, new experiences, friendships and independence.

Cambridge's architecture beguiles one to envision a scenario where each college is a medieval castle with an invisible protective moat around it. Its inhabitants - students and tutors - protected and complete in their internal intersections and engaging with clever virtual platforms for external exchange and student services. Where feasible, campuses in college towns could embody aspects of this exemplar when re-inhabiting the campus before a vaccine is widely available. They could potentially shape smaller, distinct campus communities anchored by student residences with clear boundaries guiding movement and flow. Should a second wave hit, these smaller communities will limit the spread of the illness, enabling targeted tracing and localized shelter-in-place guidelines without having to disrupt the broader campus community once again. Furthermore, careful planning and operational guidelines around such student residence life communities may also offer defined pathways for international students to return to their education journeys.

*"There may be a tendency for the hybrid condition to extend far beyond teaching to entire digital communities as described in the '90s in E-Topia by the visionary professor at M.I.T., William Mitchell. We will require new sets of protocols to engage in discourse, new assessment tools for a parallel world where in ten years every aspect of life resides in both, the physical and virtual worlds, and technology is the mediator for all of it."*

*"Some days I don't feel like a student anymore, but I'm taking it one day at a time. There is no clear direction on how my courses will be run yet, so it may have to be a last minute decision whether I return or not. And if it is only online, why should I be in a dorm room, if I cannot hang out with my friends or enjoy the city... But you know I really really want to go back."*



**Imagine this is a concept diagram of the collegiate system:** An aerial image of HTO Park at Toronto's waterfront demonstrates the idea of individual colleges with "moats" around them. This diagram could be transposed upon other campuses to reorder their communities into smaller clusters.

## Think Small and Nimble

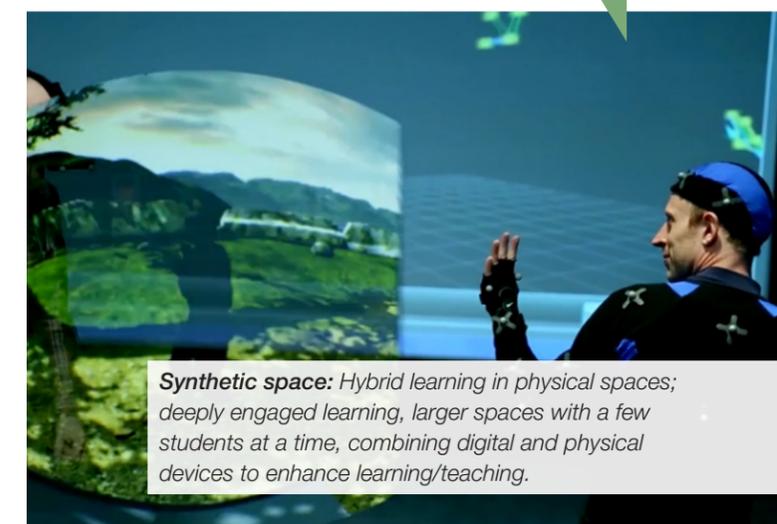
The ubiquitous Zoom classroom with its uniform grid of faces and names broke down the hierarchy of front and back-benchers, particularly for smaller groups discussions. Though it is unnatural to maintain constant eye-contact, all students had an equal presence to their teacher and to each other, prompting one professor to note that, "In my class, some more voices were heard via this medium...". While mass education requires some very large classrooms, future in-person and virtual classes during this time of transition favours small groups for meaningful interaction and deeper learning, and the agility requisite to tweak lesson-plans and interactions as public health requirements and student needs change. Many professors and students believe that 30 students is the maximum for active interaction via virtual platforms, and that on-campus learning spaces will essentially have to reduce capacity by a third or more to maintain proper distancing. Similarly, the tutor-system of dividing large lecture cohorts into small learning groups (10-15 students with a tutor/mentor) prevalent in Europe is particularly effective in supporting deeper learning online and in person.

Facilitating shifts to smaller cohorts and extended hours may fall to educators, graduate assistants, and building management staff. Many institutions plan to cluster smaller cohorts of students to permit greater one-on-one teaching - for instance, setting up 2 groups of 20 students, rather than one 40-student class for experiential learning in labs and studios. Smaller groups for experiential learning based on day of the week or week of the month are being scheduled, thereby maintaining required distancing. Others will conduct in-person classes for domestic students and virtual synchronous classes for international students (multiple sessions for various time-zone clusters), desiring the same learning outcomes across modalities. **Several professors and administrators have participated in webinars and subject-specific groups on social media to trade ideas on teaching, return-to-campus planning, experiments and resources, thereby re-energizing their teaching practices, embracing creative risks with technology integration, multidisciplinary programming, external partnerships with remote collaborators and student-lead initiatives in this unprecedented disruption to the educational landscape.**

*"Solidarity prevailed with my students! This generation had never faced a global crisis before, and in our studio of graduating students a kind of solidarity prevailed; it became a shared crisis and they more appreciated the care and concern for each other and from their teachers rather than even the work itself."*

*"Even pre-COVID, I offered my professional course - which relies strongly on peer-to-peer learning - in two formats, online and in person. I've been able to refine the material and resources for online learning over the years, yet there is no question that the implicit learning that occurs on campus - in the half hour tea break and the pub after - is as critical to learning as anything in the hour-long lecture course."*

*"One has to adapt to survive this. Students and teachers who are unmotivated or unwilling to change... institutions even, are being divided into those who are plodding through this versus those who are innovative and nimble."*



**Synthetic space:** Hybrid learning in physical spaces; deeply engaged learning, larger spaces with a few students at a time, combining digital and physical devices to enhance learning/teaching.

## When is a Window a Window? And other Considerations for a Healthful Future

Long before biomimicry became a conversation within the design community, the intrinsic relationship between cognitive development and wellbeing with natural light, good ventilation and connection to nature, was established. The most hopeful vision for the future built environment is that this disruption will be a tipping point accelerating the holistic implementation of sustainable design to reshape healthful, resilient campuses. For example, can we go beyond mechanical ventilation strategies for compartmentalization and fresh air intake? Can we imagine buildings where “windows” aren’t merely fixed panes of glass, but as part of “design for health” are always operable, responsive to outdoor weather conditions, and alongside other passive energy measures, part of the fresh air strategy for a building in any climate?

Further, building upon the idea of forest schools and learning outdoors, learning can be extended to the seam between indoors and outdoors, to threshold spaces that can be easily enclosed or open depending upon time of day or season. This feature of vernacular architecture in many parts of the globe, frequently explored in early modernist campus design, as by Louis Kahn at IIM-Ahmedabad, warrants renewed attention. Curiously, faculties in heritage buildings in Europe with the characteristic tall ceilings, ample windows and climatically-responsive structures without reliance on forced ventilation may fare better in the upcoming months. **Consider this: rather than the whole world hermetically sealing spaces to small ranges of temperature and humidity – thereby defining comfort in very narrow terms – perhaps this pandemic reminds us yet again to connect with nature’s cycles and to open one’s environs to fresh air and fresh ideas alike.**

A professor of environmental planning noted that the climate emergency will outlast the pandemic, and the imperative for universities to continue to push towards long-term-value oriented policies and resiliency. Over the past decade, many academic institutions have designed new facilities and retrofitted older ones to become “living laboratories” demonstrating holistic sustainability through net-zero carbon initiatives, passive design, and other parametric design enabled design strategies that foster active stewardship of the earth. The pandemic has only heightened the desire to embrace novel, measurable ideas to augment the long-term strategic vision across all campuses to create more sustainable facilities, aligned with the UN’s SDGs and calls for climate action. As the cities around them embrace broad planning initiatives like expanded bike paths, evidence-based transit plans and car-free civic centres, many institutions are being looked upon to think big as they partner with their communities in rethinking the health of the campus and planet.

*“Some students weren’t able to go back to their home countries because of travel restrictions, but they did not choose to stay in the dorms. Everyone was nervous to share small spaces, and concerned about and the ventilation... So they went to their friends’ houses.”*



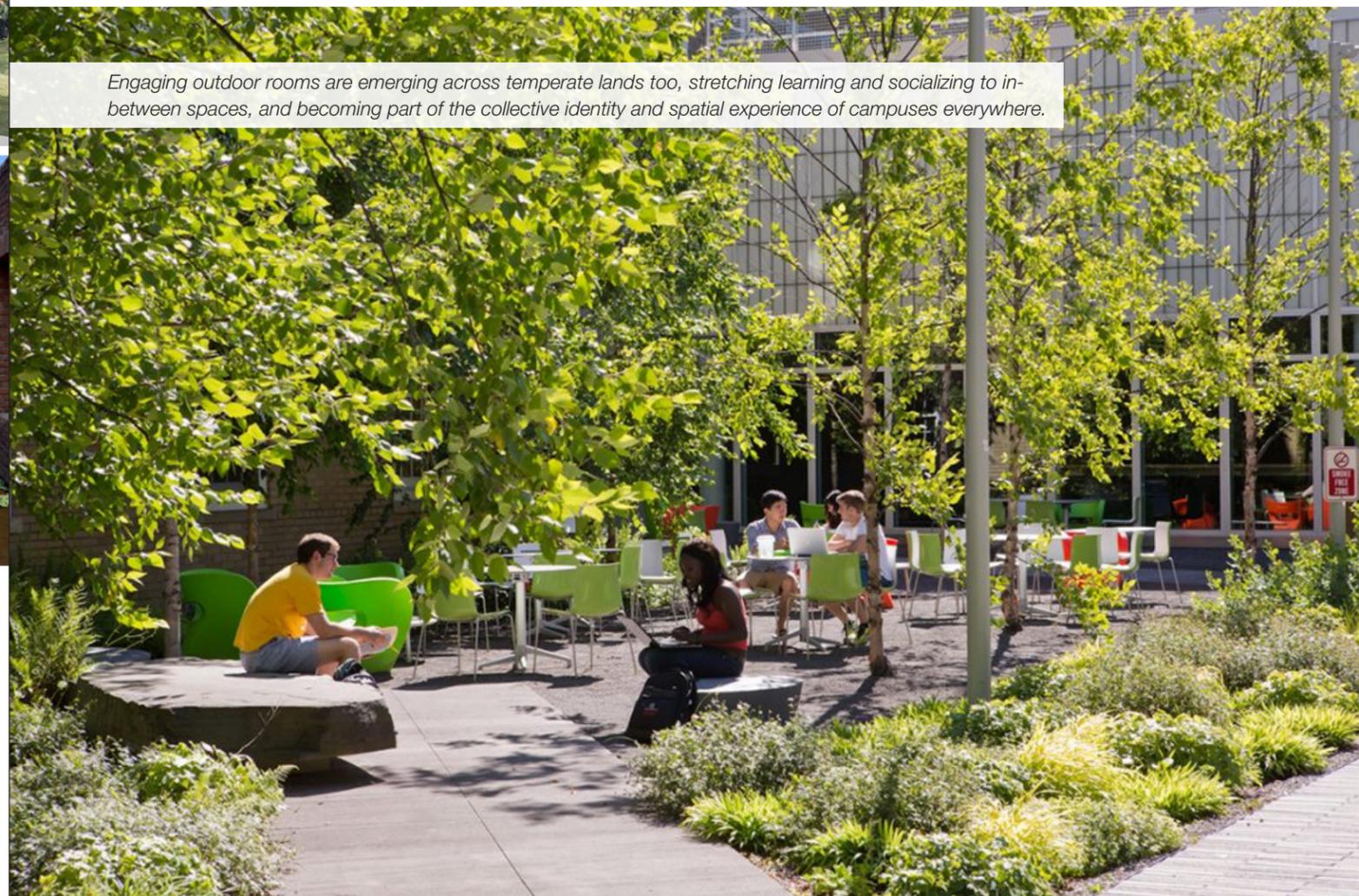
*Precedents like the annual pavilions at London’s Serpentine Gallery, and structures in warmer climes showcase a vision for the campus tapestry to imbibe a more permeable relationship between the built and natural environments.*

## Learning Beneath Trees and on Hillside

When Stanford University announced that it is investigating the use of outdoor tents for Fall classes, it brought forward the concept of outdoor rooms for education, something common in the tropics, but still unusual in temperate climes. Shantiniketan, or Vishwabharati University, in eastern India is a century-old campus founded by Nobel Laureate and polymath, Rabindranath Tagore, drawing from the ancient Indian concept of the banyan tree canopy symbolizing a space of higher learning. It isn’t unusual therefore, for most Indian campuses to have outdoor amphitheatres of varying sizes as extensions of traditional classrooms, and these spaces are often beloved animated hearts on campus. Similarly, terraced and shaded learning landscapes abound at Mediterranean and Middle Eastern campuses, and these can inspire campus quads and in-between outdoor spaces to become part of the tapestry of spaces reimagined for day-to-day learning and informal gathering so vital to student life. With appropriate physical distancing through visualization tools, temporary canopies, outdoor events-style screens, AV and lighting, the campus can be animated again, albeit at a two-metre cadence. Another unusual possibility in North America is for drive-in style events to be staged in the extensive parking lots so typical in suburban and small-town college campuses – this could be an experiment for “events” rather than ongoing classes. Further, the way Scandinavia extends its inhabitation of outdoor plazas into cooler, less-sunny months by using outdoor heaters, fire-pits and embracing a cozy “hygge” culture is instructive to outdoor classrooms, which could be used until Thanksgiving/Michaelmas in temperate regions.

**In Tagore’s words, “The highest education is one which does not merely give us information but makes our life in harmony with all existence...”.**

*Engaging outdoor rooms are emerging across temperate lands too, stretching learning and socializing to in-between spaces, and becoming part of the collective identity and spatial experience of campuses everywhere.*



## Peripatetics in the City - Back to the Ancient Greeks, Hindu-Buddhists and Islamic-Andalusians

For some years, institutions have extended their partnerships with location-agnostic collaborators to equate ecosystems of learning and research stretching beyond the physical boundaries of their campuses. As the current crisis has shown, connectivity across the globe has surged, particularly with educators seeking formal and informal interaction across subject-specific groups on social media platforms, teachers invited to distant e-classrooms and more interactive webinars in three months than anyone has attended in the previous decade. How will this heightened exchange extend to and inform the future campus?

**Though universities have not have been ivory towers for decades, all campuses are likely to further extend and leverage their networks to other campuses, cultural and civic institutions and industry as an ecosystem of partners; the most progressive ones without concerns about diminishing ego-driven institutional branding. Operational pressures are also causing campuses to reexamine and optimize their physical assets, offsetting the ownership model of space – especially downtown space – as they extend their digital footprints.**

Across campuses, the singular shimmering new Co-Lab where city and campus intersect may evolve to where we can reimagine the “City as Co-lab”. In the immediate future, (some) faculty spoke of channeling Aristotle (Lao Tsu/ Ramdas/ Averroes-Ibn Rashid/ Neitsche/ Thoreau) next term - designing Fall courses with active, walking classes, using city parks and urban squares as healthier destinations for in-person discussion groups/ studios, en plein air to boot. When campuses allow their borders to be porous, they can intersect with museums, libraries, parks and other civic spaces who are designing programs for hands-on learning for small groups from post-secondary institutions in the manner that they have done with elementary schools for decades. Similarly, institutions with co-op programs and work-terms have extended their work-integrated learning parameters to include placement with not-for-profit institutions who could symbiotically benefit from engagement with young minds as they find viable training beyond shrinking corporate positions.

*“Engineering programs need students to actually do things! The university experience has to include all of it... It is difficult to get smaller groups into labs, and faculty don’t have capacity to run multiple groups, but we are going to have to!”*

*“We are trying to be preemptive for the next semester... We are preparing to be mentally and logistically prepared to reimagine even our research in Zoom-land, which that seemed impossible last month.”*



**Porous boundaries:** Cities and towns are also reimagining their public realms and civic structures – the readily become extensions of the campus for faculty willing to build learning plans around walking and gathering outside more typical settings.

## Anxiety and Resilience are Two Sides of the Coin

My conversations with students and professors alike revealed that physical space matters; the campus matters. Tangible engagement, enjoyment and relationships are closely tied to the nature and quality of spaces and places, which directly impacts learning and growing up. A recent article that received fair airing was about a group at University of Pennsylvania who spontaneously started a project to replicate their campus online using the Minecraft™ platform. Theirs turned into a movement mimicked at other campuses, with students contributing pictures and drone photography to recreate the minutiae of buildings and in-between spaces that were so tied to their memories, sense of place, personal wellbeing, community and campus identity.

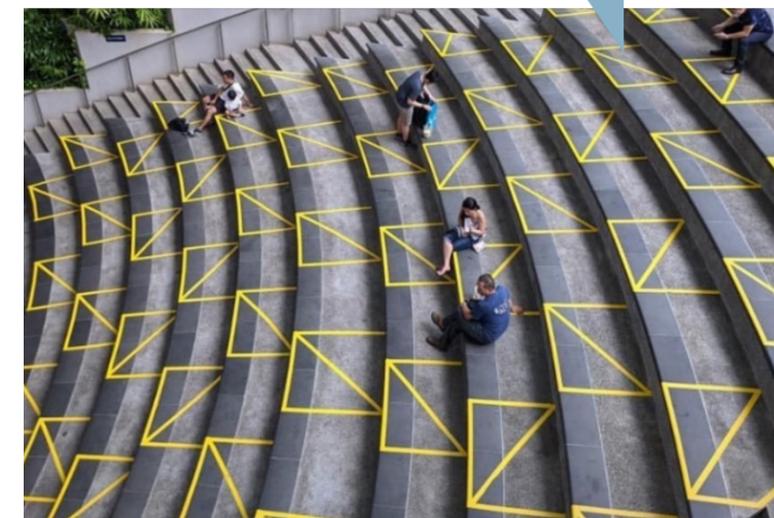
**As concerns and planning considerations responsive to second wave infections and future pandemics impact the future of universities themselves, I suggest that design for adaptability should anticipate and plan for sequential change and disruption. In the manner that climate change brings on the 100-year flood far more frequently, and physical infrastructure is now being designed for climatic resilience, so too will we have to accept that global pandemics will return cyclically, frequently and unexpectedly, and that our built environment will have to be designed differently to flex with changing public health scenarios.** This pandemic has shown us that human beings are incredibly adaptable; for societies to better weather future crises, our buildings – particularly those that foster and uphold community – will have to be durable and agile, and able to flex to shifts in habitation and intensive-to-extensive use.

Inconsistent crisis response has been a key challenge leading to confusion regarding physical distancing even at the height of the pandemic, let alone the more detailed rules and guidelines that will accompany each stage of reengagement with the public sphere. Campuses are a whole world of spaces – guidelines for re-inhabiting transit, public parks, restaurants, theatres, libraries, museums, even hotels, offer nuanced lessons with respect to maintaining healthful distances between persons and upholding public health while emerging from isolation. Equipped with extensive testing, clear guidelines of use and simple design interventions to assist people and material flows, operational interventions to limit gathering size, and leveraging campus spirit to extend a sense of joint responsibility, we social creatures can continue to expect campuses to shape collective identity and shared experience.

*“The pandemic cannot be called an agent of change, but it is an accelerator of change. Yes, MOOCs have been available for a while now, but they connect with a voluntary audience motivated to learn in that format. How do you motivate the distracted, overwhelmed student online? We have to discover a way.”*

*“My best-case scenario is the all will be well and life will return to normal at campus, but my second best is the I will be able to get into the dorm, and I will get to learn at the school, which is really cool, at least 50% of the time.”*

*“People learn better in person, it works. It sucks to be in college but not there...It’s hard to describe - like having all the work without any the fun.”*



**Yes, you can go shopping:** Malls have drawn from the idea of the ancient forum as urban crossroads for some time now, and as they restart, they showcase strategies for indoor public inhabitation with all its ebbs and flows.

## The Future of Campus Community

Despite the significant disruption, educators point out that the culture of the program and institution endures across the shift to virtual teaching/learning. Students echoed this – the individual teaching styles and tech-comfort-levels of faculty carried over onto virtual platforms, influencing the supportive scaffolding they created and impacting student learning and emotional health. Collaborative, student-focused programs and strong communities of faculty found ways to connect across informal networks with students and colleagues – WA studio groups, faculty gatherings on Zoom, collaborative e-whiteboards - to amplify peer-to-peer learning and bolster the virtual classroom over these Spring and Summer terms. On occasion the digital medium offered unexpected interactivity – students drawing “on top of” each other’s virtually-shared design drawings during a group critique leading to levity and real conversations on design; or realizing at the end of summer term that e-friendships had in fact developed via break-out sessions for a small group project. Where that same spirit of innovation and positive collaboration is shared, campuses are experimenting with more inventive plans of schedule-planning of in-person classes/studios/labs and repurposing spaces across campus and in their communities as they creatively plan for the upcoming semester.

If the university is a microcosm of the city, their resilience - particularly that of ancient cities which have survived and adapted over centuries - affords ample lessons on creating frameworks for dynamic, informal communities at adaptive campuses. Furthermore, **while architects have incorporated design strategies to enable individual spaces and faculty buildings to adapt to changes in student populations, programs or research intent, the responsive campus will have to embrace a more fluid learning and social continuum across its built environment and expanding beyond its traditional edges.** A “campus beyond departments” is not a new idea, yet it has seldom been implemented and the traditional department-based structure endures widely. Prior to the pandemic, in the face of ever decreasing operational budgets and increasing capital costs, several Canadian institutions had reexamined their current facilities aiming to utilize and operationalize space more effectively. At colleges and smaller campuses, delinking departments from specific space/building allocations, and rethinking the built environment as a series of hybrid buildings, with mixed typologies of spaces - classrooms, labs, lecture halls, studios, workshops, project rooms of various scales, and newer forms of watering holes – to be occupied in various, changing ways from one semester to the next, is a concept gaining resonance. Further, contemporary forms of design thinking and project development using generative design and parametric modeling can allow the fluid, iterative conception and scenario planning of such spaces in variable, scalable manifestations of program, activity, circulation and inhabitation.

**“Universities have a responsibility to create global citizens. University life is transformative. It is about building relationships. About being around different people with different ways of thinking building long term relationships through debate and... life.”**

**“The library is this weird building that you can’t miss on campus. It is the gatherer; not of books but of people. My friends and I gather there after morning classes, just to sit beside each other and to eat and talk and just share... I really miss that the most.”**

**“We’ll have to work in shifts in the lab with strict protocols and no lingering will be allowed. So at least research can continue, but cross pollination will be limited I suppose. Just from being on the same floor, you realize how critical that is.”**

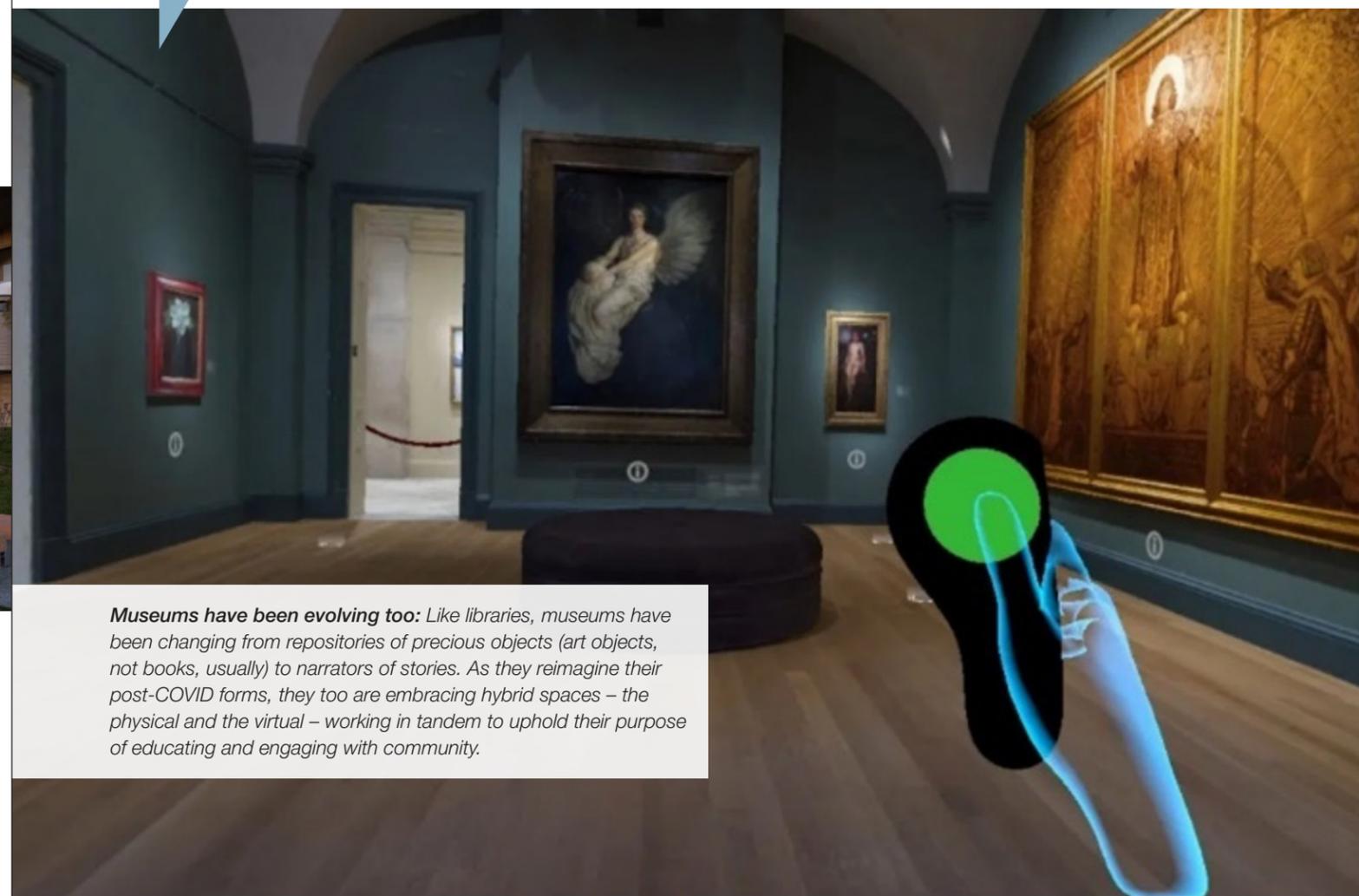


**Faraway, so close:** This outdoor quad was reimagined as a year-round space for solitary and group activities, and is an excellent example of a space that can flex between intensive and extensive activities and expand the sphere of learning and socializing to its in-between spaces.

In some ways, this approach can be likened to the “Buirolandschaft” concept which led to the open workspace or reviving the inherent ideas of the open schools movement at elementary schools built in the 1970s. Without revisiting these concepts that are often reductively described as “(noisy) schools with no walls”, the future campus may investigate a closer mimicking of the urban forum as a container for multiplicity of experience, fluid and adaptable based on activity, time of day, even season. Combined with smart building technology related to daylight sensors, occupancy sensors and intelligent ventilation systems, this concept builds on the ebbs and flows of habitation rather than the absence of walls, thereby being pertinent to the current discussion. Similarly, if mixed use neighbourhoods have proven to be vibrant and resilient in the best and worst of times, so too are campuses which are a mosaic of colleges or quads with intersecting typologies (of use) better suited to shaping and upholding community, rather than those with highly separated zones for academics, residences and student life.

As one professor put it, **“This had been a great big experiment, but as we continue we know that the students miss being together in school with their friends. Even more than me, at their age, physical contact is important to experience the strength of being together and learning together..., as is the need for socialization.”**

**“I really miss being in university; my town is small so it’s boring. I have nothing to complain about, but it’s hard to have perspective when you are away from everything... The hardest is not knowing when it will end and we can be back to what we planned... We don’t want to defer for a year else we can’t graduate with friends... ”**



**Museums have been evolving too:** Like libraries, museums have been changing from repositories of precious objects (art objects, not books, usually) to narrators of stories. As they reimagine their post-COVID forms, they too are embracing hybrid spaces – the physical and the virtual – working in tandem to uphold their purpose of educating and engaging with community.

## Reimagining University, Not Merely the Campus

Clearly the pandemic has intensified patterns already in play in various socio-political spheres and spaces. Post-secondary education is no different, and numerous articles suggest the paradigm shifts which will make Higher Education 2030 quite different in salient ways from the present. Trends from credentialing to lifelong learning, from just-in-time education to public-private partnerships for the delivery of job-oriented skills, have been gaining momentum over the past decade. As virtual campuses expand, the 50-year old learning-modules based Open University (UK), the European Open University, and the more recent distance-education-assertive models at Arizona State University are being studied and emulated in various degrees across many countries. What each of these demonstrates, is the that even the most advanced distance-education oriented institutions have physical campuses with faculties and centres of excellence, and advocate in-person discussion groups and forums to augment remote learning and knowledge creation.

Instead of contemplating a massive, divergent shift to virtual universities globally, imagine for a moment, that accessing post-secondary education was like going to the gym for good health. Imagine if campuses were places continually engaged with for structured learning, for pursuing personal and collective goals with focus and purpose, and which enriched life beyond their physical boundaries. **If higher learning was reframed as being actively engaged with throughout life, virtually and/or in-person, and post-secondary institutions were spaces of learning that all persons engaged with in varying degrees throughout life, would we design them differently?** Post-COVID, art and history museums – those bastions based upon precious physical collections – are reimagining themselves as institutions with physical and virtual forms in equal measure. Public Libraries have also been evolving into community platforms coalescing real and virtual engagement for over a decade.

Learning from these examples - despite the allure of large, integrated campuses (more prevalent in the US and Canada) - should more of them transform into decentralized ecosystems of affiliated centres-of-learning rather than singular all-or-nothing campuses? Would this imply more individualized learner-centric education and personal journeys? Would this confer greater adaptability for pedagogy, staffing and operations, diversity and inclusion, and thereby build greater resilience for institutions? This is already the norm in several Asian and European countries, where smaller, focused institutes of learning (based on subject area) dot cities and regions, rather than being concentrated in singular campuses. These institutes are typically more nimble in strategic vision and structure, with more flexible and responsive policies, operations and programming, and able to more quickly adapt physical spaces when flux is necessary.

*“There are those schools where space and spatial design is intentional, where it fosters the unique culture of the school and its highly specific programs. Those who have created that reputation - are known for it and their whole campus experience - those will always draw in students and faculty.”*

*Classroom learning is a tangible experience; it's been tested and refined over and over with respect to academic integrity, a student's desire to learn, and the culture and community of a program. Will this be a year-long blip or a significant disruption of everything known... I guess time will tell.*



**Interactive installations:** Only time will tell if the inhabitation of specialized campus spaces changes so dramatically that they will be likened to responsive art installations or theatrical performances inviting audience participation. Some institutions will say: Lights, camera, action! Others will say: I'll be in the corner watching.

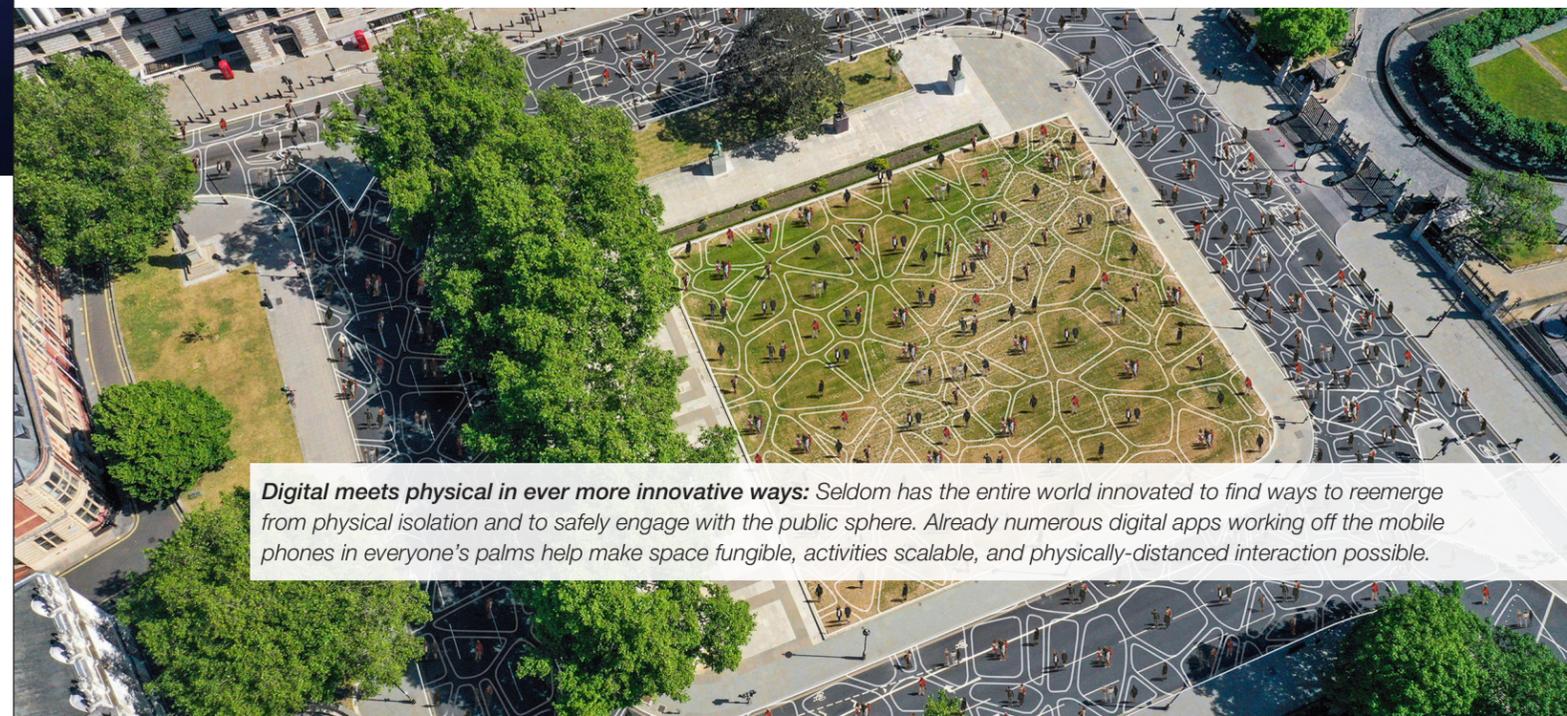
## What Does the Whole Campus Experience Bring Anyway?

As with non-academic spaces, multiple, sometimes-divergent, simultaneous forces are at play, and the traditional campus will likely undergo rapid evolution – a sudden burst of evolution, “punctuation”, rather than gradual change as theorized of species’ evolution in biology. The academic lives of campuses have synergistic relationships with collaborative and social spaces like faculty offices, gymnasias, cafeterias, student centres and residences which cannot remain agnostic to prevailing changes in expectations and functionality across all building typologies. Already, plans for some student life facilities at those American campuses experiencing a backlash against “lavish” facilities, are under the microscope, and more restrained facilities, as is common in Europe and Asia, may return. However, it is difficult to imagine that institutions will abandon the whole-person immersive experiences their vision and values are intrinsically linked with, but rather that these places may contort in scale or strategically merge with their broader communities to develop greater connectivity and civic relevance.

Similarly, research and innovation programs will grow their partnerships with industry more rapidly, and collaborations like those at Audi Institute-TU Munich and Microsoft-Cisco-Intel-University of Melbourne which directly impact teaching and learning (beyond only research project specific partnerships) will likely become less unusual. Already, multinational corporations in India and China operate “universities” within their corporate campuses with skills training specific to their 21st Century workforces, just as Silicon Valley companies frequently provide access to “Stanford-Online” learning programs to their staff.

This mirrors a demanding trend over the past two decades for universities to shift their curriculum focuses from holistic knowledge creation to job-preparedness, an impact that has already changed the functional programming and facilities being built today. Active maker spaces that encourage innovation and industry partnerships, entrepreneurial start up spaces that mimic WeWork™ and Starbucks™ more than they do traditional campus commons, are now de-rigueur in most new academic buildings. **Time will tell if these industry-supported spaces expand, or get co-opted directly into corporate campuses, i.e. the “MIT lab at CISCO”, rather than the “CISCO lab at MIT”.** This also parallels the reshaping of healthcare campuses, since the future of healthcare will be community based and tech-enabled, leaving hospitals to attend to the needs of the most complex of health ailments.

A more immediate real estate impact will relate to faculty and administrative offices and mirror corporate trends - should more courses shift online and administrators and adjunct faculty work from home or move to hotelling, the organization of unique buildings related to specific faculties may be reexamined. In fact, the overall real estate footprint of offices at campuses may shrink or be repurposed for other activities. There is even speculation that student housing may move in large measure to off-campus providers, with limited “hostels” as was the norm until the 1980s. **Once the armature of non-academic spaces gets redistributed and enmeshed with its community, what experiences and spaces will be deemed essential and core to the campus?**



**Digital meets physical in ever more innovative ways:** Seldom has the entire world innovated to find ways to reemerge from physical isolation and to safely engage with the public sphere. Already numerous digital apps working off the mobile phones in everyone's palms help make space fungible, activities scalable, and physically-distanced interaction possible.

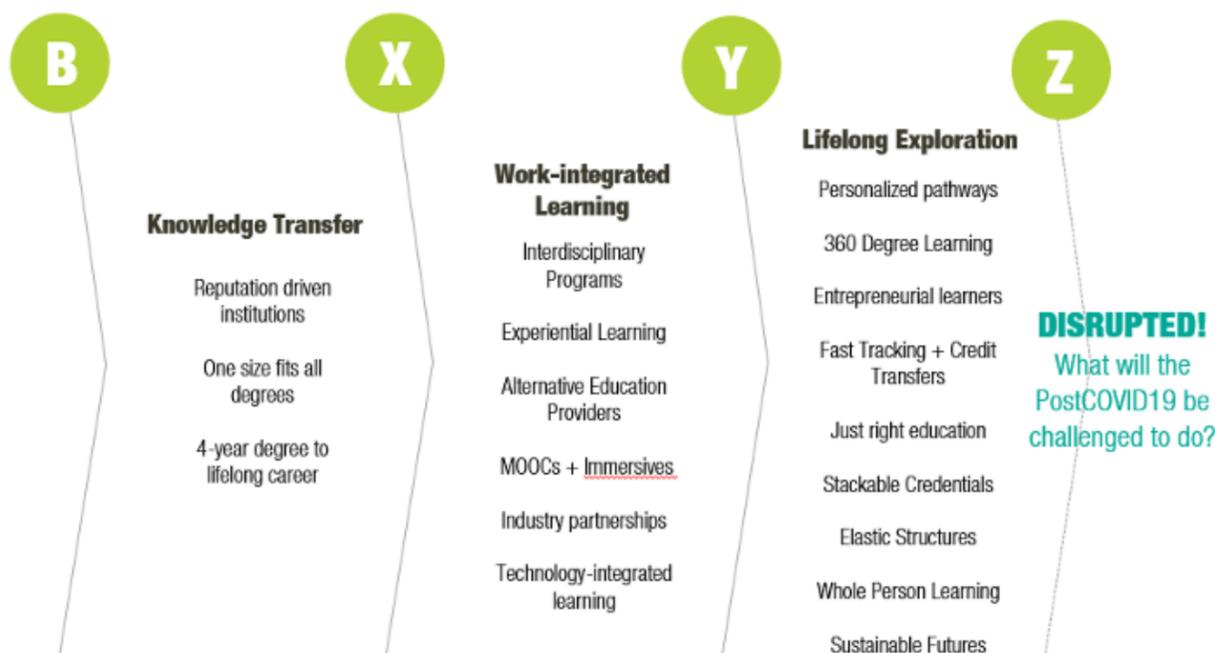
## THE FUTURE IS HERE. AND ITS TRANSFORMING ALREADY.

Prior to the current crisis, MIT's Media Lab was building a credentialing platform aimed at refugees and international scholars, to carry along "digital credentials wallet" as they cross geographies and gather new learning and skills. This builds upon previous trends related to personalized learning for post-secondary education, where, having gained a secondary school foundation, an individual's future paths could include project-based explorations and interest/expertise-based learning, which might otherwise defy traditional university degree program or single-institution boundaries.

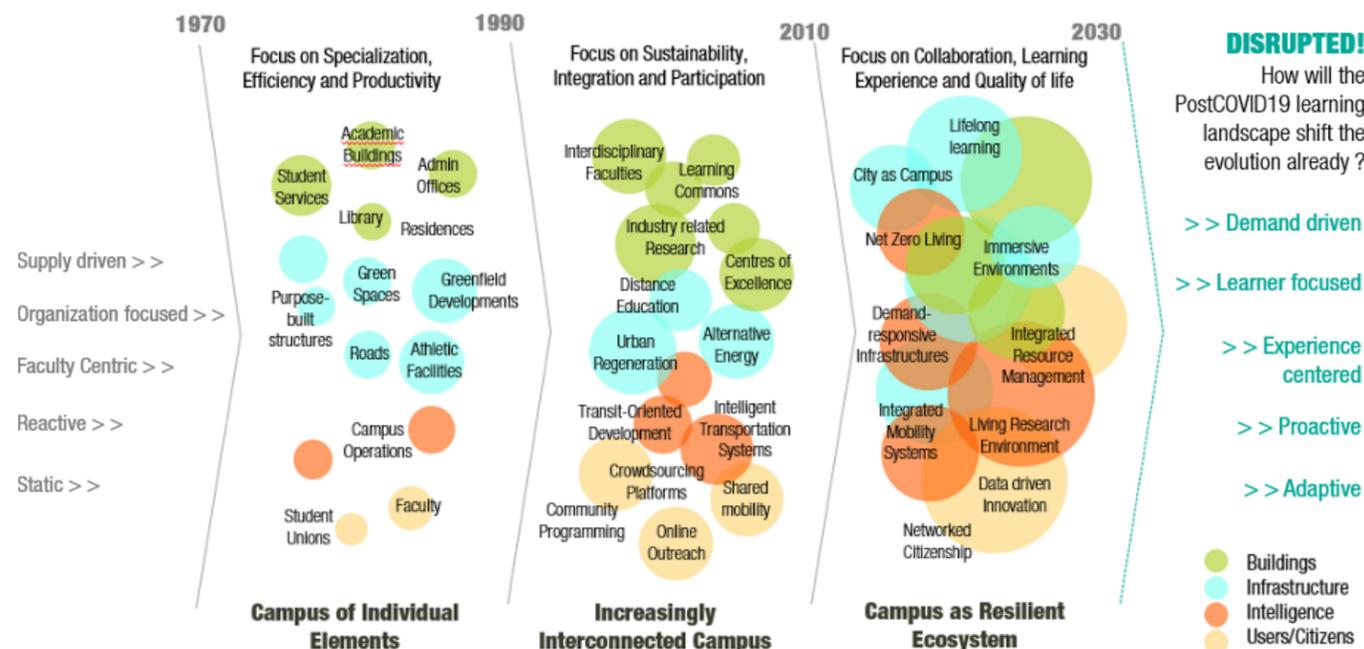
As radical as such remaking may appear, it is already part of the debate as campuses evaluate their long-term relevance, structures, partnerships and forms. Ideas of constant experimentation, evaluation and residing comfortably in a "permanent beta state" – as described in 2012 by Reid Hoffman, co-founder of LinkedIn for the technology industry - may be absorbed as the mindset of faculty, students, and even institutions. **To develop academic, financial, and institutional resilience, institutions are being challenged to take on active plans to adapt, take intelligent risks without fear of failure as they embrace a state of living in vulnerability which will afford more growth than years of relative stability; just the kind of advice that new graduates have been receiving for years.**

At this time of radical change, the foundational idea of the predictable 4-year degree program and the physical infrastructure that supports it returns to the center of debate. We have acknowledged that post-secondary education is preparing graduates for an unknown future by imparting a growth mindset, critical thinking, creative risk taking and management regardless of discipline. Yet the old order of university degrees as socio-cultural currency framing the rest of our lives persists, even as we concede that graduates will have to redefine their professional identities multiple times throughout their lives. "Pivot yourself", they are exhorted. While aiming not to commodify education, new models have been floated previously to support career redefinition through multi-year "subscriptions" to a university, competency-based learning and "unbundling of traditional programs" by elite institutions to grow access. Similarly, Denmark's government-supported retraining program allows the work-force to return to institutions every four years, and Stanford's 'Open Loop University' promises six years of learning over a lifetime for recurring acquisition of new skills - these models require deeper review for wider application. Moreover, going beyond singular brands, clusters of innovation spanning universities and external partners are already shaping permeable ecosystems of learning and collaborative research based upon the shared values and interests of their participants, and can morph organically through time. **The post-secondary learning landscape is indeed ripe for transformation.**

### LEARNING HAS BEEN EVOLVING



### CAMPUSES HAVE ALREADY BEEN EVOLVING



At this time of global inflection when all the world has paused before restarting, ambitious ideas no longer seem radical, and post-COVID, may be hastened to fruition and broader implementation. To be sustainable and relevant, post-secondary institutions need to evolve into spaces of possibility and connection, with those in the room and beyond, and with academic and non-academic partners, harnessing curiosity and experimentation to construct new forms of knowledge for the benefit of all. While there may be a broad notion of architecture creating stable, 50-year spaces responsive to specific sets of anticipated needs, the rapid rate of change in education over the past decade has already demanded a shift in this approach. Forward-looking schools are reimagining campus architecture as a series of agile, multifunctional spaces with scalable, flexible infrastructure and robust tech-enabled support services that can be refashioned to support sequential changes in program and function. This will expand to include variation in occupancy and rules of habitation, based on seasonal public health requirements and big-weather events, and this conceptual approach will no longer be unusual enough to proclaim itself as the "campus of the future". A possible future assumed to be 5-10 years away is here now and is becoming the new normal in campus architecture.

**In the midst of this dizzying change, allow me to end on a critical reminder from a professor of anthropology: Space for creating knowledge matters. How you sit matters. Where you sit matters. Whether you can make eye contact, matters. How often you can speak, matters. To co-create knowledge, you need to be together. It isn't accidental - creation happens in the interactive, interpersonal spaces in between us.**

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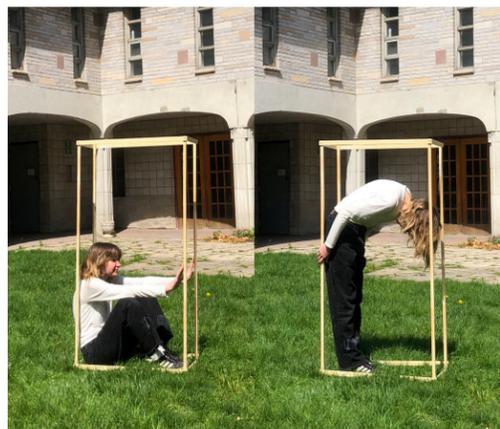
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