HIGHER EDUCATION

The Campus After COVID-19

Infrastructures of "innovation" have produced new forms of surveillance and compliance that will refigure the post-pandemic campus

March 4, 2021

Bonnie Mak
Associate Professor in the School of Information Sciences at the University of Illinois at Urbana-Champaign

Hallam Stevens
Associate Professor of History at Nanyang Technological University in Singapore

Photo Credit: Halfpoint/Shutterstock.com

Campuses around the world continue to engage in a dangerous experiment: welcoming students back to class even as Covid-19 and its more infectious variants spread. On campus, just as elsewhere, a successful and sustained reopening relies on those who are among the most vulnerable: custodial and maintenance staff and essential workers. Many of these employees were already experiencing different forms of precarity before the pandemic —including disparities related to race and ethnicity, chronic underemployment, housing and food insecurity, and a lack of adequate medical insurance. But to remain closed entails an

untenable long-term economic risk for universities, many having been already destabilized by decades of financial rescissions.

In their attempts to resume activities, universities have recreated themselves as experimental sites for investigating ways to deal with the global health crisis. Indeed, many have transformed the pandemic into an opportunity for showcasing "innovation," which includes accelerating trials of biomedical infrastructures, online learning, and other digital technologies. But does this version of innovation provide the foundation for more resilient and equitable infrastructures for the university?

Imagining what a post-pandemic campus might look like under the regime of innovation requires a critical examination of what "innovation" is, and how it ended up as an engine for reconfiguring higher education in the first place. After continuing to lose market share to Pacific Rim countries through the second half of the 20th century, big business in the United Kingdom and the United States began to see research universities as the source for "science-based products and processes" that could be introduced to a global economy. But this move was not made without a response: Asian universities are now also fierce competitors in this arena.

A comparison of two campuses—one in Singapore and one in the United States—reveals the extent to which the demands of international trade, politics, and economics have begun to reconfigure priorities in academia, even across two very different cultural and viral contexts.

Nanyang Technological University, Singapore

Well before the pandemic, Nanyang Technological University (NTU) referred to itself and its own campus as a "testbed"—a space in which different technologies could be safely tested out in a limited domain before being introduced more broadly. The university has played the role of a testing ground in a variety of historical and geographic contexts, but this function is especially explicit in today's Singapore. For example, NTU is a testbed for diverse initiatives in so-called knowledge transfer, including those related to autonomous vehicles, waste-to-energy conversion, and maritime shipping technologies. Such technologies are piloted in the campus environment before being rolled out in Singapore and beyond, "transferring" knowledge from the university to the market.

Pivoting to the needs of the moment, NTU found an opportunity during the pandemic to become a testbed for new technologies related to tracking and tracing the spread of the virus, thus rehearsing the kinds of digital surveillance that are imagined to be necessary for future political needs and habituating communities to such measures. An array of surveillance technologies and checks on movement had been added to the usual directives for social distancing across the NTU campus by August 2020. Most entrances to buildings were locked or sealed off with orange plastic barriers, channeling would-be entrants to checkpoints at the main doors. These entry checkpoints required a temperature check as well as a digital "sign in" using either a national identity card or the government's "SafeEntry" smartphone app.

Entering particular rooms, floors, and hallways in these buildings required additional barcode-based "check ins" to an internal university system. Faculty were required to take

photographs of their students at the beginning of each class session. The goal of these interventions was to facilitate contact tracing. In the event that a COVID-19 case was identified on campus, those individuals who had been in the same classroom or the same building could be quickly "traced," notified, tested, and isolated.

To be sure, instituting these modes of digital and biometric surveillance served a public health agenda. But they also provided a means of showing off the University's proactive approach to the pandemic. The technologies could be tested in the controlled environment of campus, where the risks of failure were relatively low.

As Singapore reopened more generally, these campus-tested technologies were put into action in other venues, such as shopping malls, cinemas, and restaurants.

Thus, the NTU campus offered a place to observe the kinds of challenges that a system might face when it was deployed more widely, such as when barriers were torn down in defiance of the restrictions, and develop strategic countermeasures. As these schemes were rolled out more widely, the entire city state became an experimental space and population—a lab for studying the potential of "smart" tracking and tracing.

University of Illinois Urbana-Champaign

With no national strategy for curbing the spread of the virus, administrators and researchers at the University of Illinois Urbana-Champaign devised a plan to enable a reopening of the campus by August 2020. The plan relied on two elements: a rapid test for Covid-19 and a smartphone app with customized data management capabilities that would aid exposure notification. Campus researchers developed a saliva-based test that could be handled in-house by converting the Veterinary Diagnostic Lab at UIUC's College of Veterinary Medicine into a Covid-19 testing facility. The test was branded "I-COVID." A twice-weekly testing regimen was to be used in conjunction with the "Safer Illinois" smartphone app, also designed by campus researchers. The app would track the user's history of testing and test results, send reminders, and facilitate exposure notification. The app could also generate proof of a recent negative test that would be checked by a "Wellness Support Associate" before a member of the university community was permitted to enter a campus building.

But even before the pandemic, the collection of data had been a point of contention at UIUC. The Safer Illinois app operates on RokWire, an open-source platform developed by university researchers to support smart communities. RokWire's "living lab" ecosystem was criticized for its intention to collect data from multiple sources—such as the personal devices of community members and sensors in the environment—and integrate it with information in the cloud. Questions about privacy escalated through the first months of 2020 and were formalized in April when the University was asked to establish an independent oversight committee for the platform's implementation.

As the reopening of campus became a priority in the following months, the RokWire development team sidestepped the unresolved questions about their approach to data collection by "innovating" a new app based on the same platform that nevertheless could be branded as "privacy preserving" and "built from the first day with privacy as a foundation." But the swift installation of such digital technologies under these conditions amplified

growing concerns about data collection and surveillance on campus and added to suspicions about the business motives behind the initiative.

In early August, campus administrators introduced their reopening plan, "SHIELD: Target, Test, Tell," a version of which would be marketed across the nation through Shield T3, a company that had been created as a subsidiary of the University of Illinois system. Although not yet authorized for emergency use by the U.S. Food and Drug Administration, the saliva test was moved to the next stage of trials through a partnership with Greenville University, a small, private Christian liberal arts college of about 700 undergraduate students in the southern portion of the state. Greenville's residential nature (making the collection of data easier); its smaller community (facilitating contact tracing while still offering "significant data"); and its rural setting (meaning fewer interactions with the surrounding population) made its campus an ideal testing zone. Moreover, the institution's service-based mission could be leveraged to impress upon the students their responsibility to the surrounding community.

Deployed on the three campuses of the Illinois system and at Greenville, the SHIELD plan showcased the flagship university's biomedical testing facilities, epidemiological modelling, and protocols for mitigation, as well as its techniques of data collection and information management. By November 2020, the University of Wisconsin-Madison had been added as a further testing partner and a mobile testing laboratory prototyped. On February 24, 2021, it was announced that the saliva test developed at UIUC would be adopted by Baltimore City Public Schools with support from American University and the Consortium of Universities of the Washington Metropolitan Area. The testing process, now branded "covidSHIELD," was authorized for federal emergency use on the same day. The trials, first within the state of Illinois and then beyond, served as vehicles to advertise UIUC's place at the forefront of scientific and technological innovation—and helped demonstrate the University's suitability for government and industrial partnerships.

The coordination of spirit

Digital and biomedical surveillance at both NTU and UIUC was complemented by a range of measures to foster community spirit and encourage a collective effort towards controlling the rate of infection. The installation of these measures acknowledges that the technical and technological infrastructures of surveillance need to be accompanied by significant changes in social behavior by large segments of the community. Just as the pandemic provided an opportunity for campuses to use their communities as testbeds for technological innovation, so too could the occasion be exploited to test the limits of a "coordination of spirit."

The Singapore government uses such social "nudging" widely, availing itself of not only strict laws but also careful messaging to govern public behavior. At NTU, administrators appealed to the notion of a unified campus community. In particular, the University deployed the concept of "OneNTU"—a vaguely-defined term that suggests a commonality between those living and working on the campus, regardless of status.

Messages from the President's office enjoined staff, faculty and students to stay united and look out for one another. Such messages not only served to remind individuals of their responsibility to the community, but also attempted to *produce* and *reproduce* community,

or a sense of community, in a time when collective action was genuinely needed. Administrators at NTU also tested how far social solidarity and collective spirit could be manufactured through messages transmitted through emails, posters, and television screens.

Similarly, the University of Illinois introduced the language of community as part of its Covid-19 response. Signs across campus emphasized the collective nature of the endeavor and included messages such as "Distance makes the heart grow fonder" and "Air high-fives all around. We're winning at social distancing." The campus pledge also sought to foster a sense of collectivity— "Do your part," it said, by participating in regular testing and "exposure notification programs."

But as students, faculty, and staff were urged to sign the pledge, questions quickly emerged about whether the agreement was legally binding. Many bristled at being the unwilling subjects of the grand experiment.

A decision by the Office of the Vice Chancellor of Student Affairs to develop a "cadre of staff volunteers" tasked with attending on-campus student events "that have the potential for being disruptive" only added to the rising suspicion. The suggestion that staff would be turned into a covert policing unit to be on the "front line of intervention with students," "trained in strategies and techniques to reduce the likelihood of a disturbance," irked many in the campus community.

The initiative was suspended less than a week after it was announced, but the damage had been done. The abortive attempt suggests how the pandemic can be—and has been—exploited as an opportunity for accelerating "innovations" that not only include biomedical infrastructures and digital technologies of surveillance, but also trials in social engineering.

The entrepreneurial university

These observations at NTU and UIUC reveal a shared alignment with the priorities of research and development. Such activities have long been used as bridges to larger forms of state planning and corporate profits. But the expansion of these practices during the pandemic has resulted in the wholesale repositioning of university communities as the subjects on which digital, biomedical, and social technologies are tested before being brought to market. Universities have capitalized on the desire for reopening to test a new suite of technologies and practices on their communities under the label of "innovation."

The choice to use the campus as a lab for such experiments places students, staff, and faculty members at risk. The risks are, moreover, not equally distributed.

The pandemic has exposed the extent to which campuses have, in light of a worsening financial outlook, reorganized their institutional priorities according to the values of an "entrepreneurial university" over the last decades. Attention to developing marketable products has only intensified during the health crisis. Even when the pandemic recedes, the infrastructure of the entrepreneurial university and the institutional commitment to it will remain—a common effect of emergency situations. In a post-pandemic world of depleted streams of revenue and tight competition for international tuition dollars, campuses may find themselves increasingly valuable as sites for testing the limits of surveillance and

control.

What the pandemic has made manifest is that innovation and experimentation rely not only on financial capital, laboratory infrastructure, and "talent," but also on creating ordered and disciplined populations on which to roll out the products of these investments.

Bonnie Mak is an associate professor in the School of Information Sciences at the University of Illinois at Urbana-Champaign, with a courtesy appointment in History. She studies the histories of information, its technologies, and practices from antiquity to the 21st century.

Hallam Stevens is an associate professor of History at Nanyang Technological University in Singapore. His work focuses on the history of genomics and information technology from a global perspective.

Keywords: community spirit, Global Economy, Reconfiguration, social engineering

February 25, 2021 • **Heather Cox Richardson**

FASCISM

Why We Should Ban Oppressive Speech Acts

February 24, 2021 • **Natasha Lennard**

PAST PRESENT

Britney Spears and the #FreeBritney Movement

February 23, 2021 • **Nicole Hemmer, Natalia Mehlman Petrzela, Neil J. Young**

RACE

Who Owns the Evidence of Slavery's Violence?

September 10, 2020 • **Thomas A. Foster**
