Editorial

Pandemic Pedagogy: Innovative Strategies for Uncertain Times

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Just as the COVID–19 pandemic has suddenly thrown us into a tailspin, so too has it demanded that we adjust and adapt to a so-called new reality. While this reality is not of our own making, there is much we as teachers, teacher educators, teacher candidates, and educational researchers can do to collaborate, innovate, and find our way forwards.

In the face of crises we tend to seize up, shut down, and go into survival mode. When we struggle to get our heads around events that seem to change every day, we easily lose sight of the longer horizon. It's hard to think big picture in the midst of disruption change, and uncertainty, which makes reflection seem not only indulgent but even unhelpful. But perhaps only when a civilization is in crisis does the importance and urgency of reflection become fully apparent—and needed more than ever in a pandemic. Reflection, thought, and academic research responds by trying to make sense of the world we live in, seeking order and meaning in the face of chaos and despair, questioning what we previously took for granted.

After all, is there a greater and more urgent topic to research than how we're going to raise our children and youths? In a way, it is the work of educators that prepares us for pandemics, for the problems and possibilities of unknown futures. How do you raise a child to become an adult who can face unknown challenges, make choices that serve not only them but also the society they inhabit, and navigate the ethical, democratic, and existential struggles that life will surely present?

The virality of COVID–19 has shown how interconnected we are, and the virality of fake news and polarized populism has shown how vulnerable we've become to sophisticated propaganda tools that promote manipulated narratives and fictional facts by populist leaders. It is significant that viral infections in countries led by populist male leaders (Russia, the U.S., the U.K., Brazil) as of early June increased the fastest (Leonhardt & Leatherby, 2020).

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In this pandemic, the fate of education too is at stake. Will conventional face to face classes be replaced by online learning? Why pay teachers and build schools when kids can learn online with applications like the Khan Academy and Codecademy? This makes the *custodial* function of teaching become perhaps the most important, or at least most evident to those of us with young ones at home. In Canada, postsecondary education is publicly funded with the result that education is set in competition against health-care dollars. As education becomes increasingly influenced by data harvesting demands (Klein, 2020; Zuboff, 2019), it is important to bring ethical and democratic concerns to bear. Perhaps there will be an even greater hunger for face-to-face learning, or perhaps online pedagogy will prevail if rising costs make face-to-face learning prohibitive. We may wonder if we even will have educational institutions (schools, colleges, universities) after COVID or if education will become a minor branch of “Big Tech” (Klein, 2010; Walsh, 2020; Zuboff, 2019).

Not long before the pandemic hit, U.S. Senator and presidential candidate Elizabeth Warren discussed plans to break up “Big Tech” (Kolhatkar, 2019), yet one of the more lasting effects of COVID might be to bring “Google University” one step closer to reality. Google’s capacity to gather students’ meta data is extraordinary, encompassing “the search terms children use, how they move their cursors across or interact with pages, the devices they use, their locations, and who their classmates and teachers are” (Okiihiro, 2020, para. 4). Even before COVID, student data was said to be even more valuable than oil. Naomi Klein (2020) notes that tech companies “have all repositioned themselves as benevolent protectors of public health and munificent champions of ‘everyday hero’ essential workers (many of whom, like delivery drivers, would lose their jobs if these companies get their way). Less than two weeks into New York state’s lockdown, [former Google CEO Eric] Schmidt wrote an article for the *Wall Street Journal* that both set the new tone and made clear that Silicon Valley had every intention of leveraging the crisis for a permanent transformation” (para. 31). Education in the broadest sense was already threatened—witness growing anti-intellectualism, hostility to expertise and scientific knowledge, a willingness to succumb to demagoguery—yet what might be its fate when run by and for Big Tech?

The essays in this special issue of *Brock Education*—“Pandemic Pedagogy”—present numerous strategies for adapting education to our new reality, reflections on what is at stake, and alarm about what might be lost. While face-to-face education still remains the preferred option for many students, it seems clear that for at least the short term it will be necessary to explore, develop, and advance online pedagogical strategies, even for the most unlikely of subjects such as Physical Education. While we may make more sense of this pandemic when it is further behind us, this special issue no doubt helps us get our bearings and navigate our way through these strange times. Here we see Brock faculty members doing their best to adjust in real time,

taking time out from their own teaching to share insights and suggestions from their own recent experiences.

Susan Drake and Joanna Reid, in “How Education Can Shape a New Story in a Post-Pandemic World,” present the Story Model as a transdisciplinary curriculum and collaborative problem-solving model for K–16, arguing that it allows for messiness, multilayered complexity, and a big-picture perspective that can actively help shape a new story for our times. In “Teaching Physical Education Teacher Education (PETE) Online: Challenges and Solutions,” Chunlei Lu, Joe Barrett, and Olivia Lu describe challenges facing physical education teacher education (PETE) in transitioning online, along with eight helpful strategies that can be adopted. In “COVID-19 and the Ongoing Problem of Educational Efficiency,” Michael Mindzak argues that an overemphasis on efficiency represents a form of instrumental anxiety, and suggests that instead of just doing our best to return to “normal” we should seize upon this crisis as an opportunity to move away from an unhealthy and imbalanced focus on efficiency at the expense of other social and educational goals and values. In “e-3Cs: A Research-Based Model for Effective Digital Learning for K–6 Schools,” Candace Figg, Chunlei Lu, Olivia Lu, and Keith Crawford offer the e-3Cs model (Engaging, Connecting, Collaborating, Consolidating, and Sharing) as a framework with flexible elements essential for promoting optimal distance interactions for younger grades. Candace Figg, Anjali Khirwadkar, and Shannon Welbourn, in “Making ‘Math Making’ Virtual,” describe strategies for re-envisioning mathematics learning environments for virtual delivery—specifically, research-based design decisions for the re-envisioned virtual mathematics makerspace. Rahul Kumar, in “Assessing Higher Education in the COVID-19 Era,” argues that assessment practices must contend with ethical concerns that emerge as a consequence of relying on technology companies, and turns to Zygmunt Bauman to provide ethical guidance for teachers and policy makers. In “Reimagining Mathematics Education During the COVID-19 Pandemic,” Anjali Khirwadkar, Sheliza Ibrahim Khan, Joyce Mgombelo, Snežana Obradović-Ratković, and Wendy Ann Forbes apply an “enactive” approach to map out the ways Ontario teachers, students, and parents have reimagined online mathematics education at the K–12 level during the COVID-19 pandemic, highlighting how important it is that educational researchers use an appropriate framework for understanding the emerging mathematics education realities. Finally, Ruth McQuirter, in “Lessons on Change: Shifting to Online Learning During COVID-19,” outlines frequent barriers to successful pedagogical change, and contrasts these with observations of positive change strategies employed by Brock University in moving to online learning, emphasizing the need for strong institutional support for the development of technical skills and collegial sharing that leads to a sense of agency among instructors.

The accompanying review of a recent and timely book, Shoshana Zuboff’s *The Age of Surveillance Capitalism*, encourages us to think carefully about how much we share online, as well as the looming threat of “Big Tech” that has benefited more than anyone from this

pandemic and created more billionaires in the first months of this pandemic than any other industry (Denning et al., 2020). Perhaps in the long term, as the pandemic fades, what will remain and have an equal impact is the data we have so willingly or even unthinkingly handed over to companies that seek to become educational institutions themselves to rival public schools and universities. Such cautions must be kept in mind as we move into a “new normal.”

At a moment when our certainty has become unmoored, when our imagination is kick-started in the task of reimagining possible outcomes to our new scenario, educational research is more relevant than ever. Such research can play a role as we emerge from COVID, perhaps finding new ways to defend public education, emphasize its importance for democracy, and to reimagine education as something more than glorified child-care and career preparation—indeed, as the very glue that can hold us together and help us heal when remarkable forces have pulled us apart. After all, education is not daycare or job prep; it is what helps us deal with the unknown in a way that is bigger than our own self-interest, and what can help us get through this pandemic. The intent of this issue is to express some optimism and provide some helpful and practical suggestions as we move forward through these strange times.

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