COVID-19 and Higher Education: Evolving teaching and learning for sustainability - A new era or temporary response?

Kim Beasy[a], Joy K. Polanco O'Neil[b], Valeria Ruiz Vargas[c]

[a]University of Tasmania, Australia; [b]Cabrillo College, California; [c]Manchester Metropolitan University, United Kingdom

Abstract

The COVID-19 pandemic catalysed unprecedented shifts in higher education worldwide, prompting a reevaluation of teaching and learning practices amidst the backdrop of sustainability imperatives. This editorial synthesizes diverse scholarly contributions exploring the intersectionality of COVID-19, sustainability, and higher education. Amidst ongoing global grappling for a "new normal," this special issue poses a central question: How has higher education responded to sustainability amid the pandemic? Reflecting on institutional responses, the collection illuminates both challenges and opportunities in fostering sustainable futures. Themes of technological integration, social sustainability, and policy implications emerge, underlining the need for adaptive pedagogies and community-centered approaches. As higher education navigates this transformative era, the editorial calls for sustained innovation and a commitment to nurturing resilient, inclusive, and environmentally conscious learning environments.

Citation

Beasy, K., Polanco, O'Neil, J., Ruiz Vargaz, V. (2024). COVID-19 and Higher Education: Evolving teaching and learning for sustainability - A new era or temporary response? *Journal of University Teaching and Learning Practice, 21*(3). https://open-publishing.org/journals/index.php/jutlp/article/view/723

Introduction

The COVID-19 pandemic has undoubtedly impacted the higher education sector and required significant shifts in the delivery of teaching and learning worldwide (Burki, 2020). Human and non-humans alike face a persistent threat as a consequence of anthropogenic forces exasperating climate change and unprecedented species extinction in human history (IPBES, 2019). Social justice and inequalities are an ever-present challenge around the globe (Robinson, 2006; Bal & van den Bos,2022). Additionally, dynamics between environmental and socio-economic issues demand the call for urgent action across complex human systems (Pörtner et al., 2022; Chancel, 2020). Sustainable development has been the main overarching concept with international policy, such as the United Nations Sustainable Development Goals (SDGs), aimed to integrate social, environmental, and economic sustainability solutions (Baker, 1997; Estes, 2010; United Nations, 2015). Despite large gaps in implementation, the SDGs have been formally and informally enacted through a range of programs and declarations (Owens, 2017; Leal Filho et al., 2019; Sonetti et al., 2019). Though recent evidence suggests that sign-ups by higher education institutions during 2020-2021 - at the height of the pandemic - were significantly lower than previous years (Crawford & Cifuentes-Faura, 2022).

The call for this special issue came out at the height of COVID-19. We recognise that while the 'height' of COVID-19 has subsided, we live in a world ever-marked and changed by the pandemic. Since this call and since these papers were written, we see evidence of continued grappling and sense-making across contexts and continents - in trying to locate our "new normal" that will impact how we educate for sustainability. Therefore, this special issue focuses on the following question: How and in what ways has higher educational teaching and learning responded to sustainability amid the COVID-19 pandemic?

In this special issue, we take as the focus, the intersections of COVID-19, sustainability, and higher education teaching and learning. As evidenced in the papers, we are still in the process of creating and realising what the future of sustainability looks like generally, and specifically in teaching and learning.

Higher education institutions are well positioned to contribute toward sustainable futures through innovative research, community engagement, leadership (Radinger-Peer & Pflitsch, 2017), teaching and fostering generations of environmental and social change agent graduates (Leal Filho et al., 2018). However, during the COVID-19 pandemic and continuing in the post-COVID era, higher education institutions had to attend to the physical and emotional safety of staff, faculty, and students, and ensure teaching and learning was accessible throughout physical distancing mandates (Aristovnik et al., 2020). How did, and have, these necessitated shifts in institutional focus influence and inform actions for sustainability? Did the COVID-19 pandemic induce new and creative sustainability practices, or were initiatives of sustainability put on hold, and if so, what does this mean for culture and practice in a post-pandemic era?

It was recognised in the papers, which had defined sustainability in diverse ways from the United Nations Sustainable Development Goals to sustainable education in the form of how to teach and learn sustainably, that all bring merit to the contributions towards enacting sustainable change towards a social and ecologically just and sustainable society.

The sustainable education that took shape in this special issue was to address the shift to teaching and learning practices online. In some cases, this shift improved access to higher education for people who previously experienced impediments to access due to inflexible scheduling and face-to-face attendance requirements (Atherton, 2021). However, increased pressures on academics were also reported (Adedoyin & Soykan, 2020; Watermeyer et al., 2021) including cases of gendered workload allocation (Steinþórsdóttir et al., 2021). This special issue seeks to add to an emerging understanding of the unintended consequences of the COVID-19 pandemic on institutional constitution and practice of what can be termed sustainable teaching and learning for sustainability.

We note that in this collection, the authors have expressed the institutional work done and that will be sustained in their institutions post-COVID. We are excited by the diverse geographies represented in this edition, noting the inclusion of perspectives from Iran, Indonesia, Australia, the United Kingdom, United States, Ukraine, and Finland. So often research and researchers are limited - either by their own doing, search algorithms, or by the need for comparability - to reading, and drawing on, research studies that have been undertaken in geographically/socio-culturally similar contexts. This edition encourages the cross-pollination of ideas for sustainability in higher education teaching and learning and exposes the vast array of approaches that are currently in play globally to move toward educating for sustainability in a post-COVID era. We note this diversity extends to the range of methodologies employed by authors, including reflective approaches that allow us insight into the lived experiences of academics (Ashford et al. 2024; Santa-Ramirez, 2024), interviews and focus groups with students (Parviz et al., 2024; Vermeulen et al., 2024) and staff (Nugroho & Biasutti, 2024; Parviz et al., 2024), mixed methods approaches to generate breadth and depth of understanding (Mospan, 2024), and novel approaches including use of digital storytelling (Vesala-Varttala et al., 2024) and soft systems methodology (Powell et al., 2024).

The themes that emerged from the collection include technology, health and wellness, adaptability, and innovation in novel teaching environments. We realised that throughout this collection, there was a lack of a collective definition of sustainability or sustainable development. Some authors seemingly use the term very directly to address education for sustainable development, while others underpin their work *in* sustainable education. While we, the editors, do not view that education for sustainable development necessarily needs to be underpinned in UN SDGs, we did question the broad scope of literature that feels a sense of homelessness for an operational consensus of education for sustainable development. At the same time, we acknowledge that there is not one direction that can lead us toward sustainable futures, and that is both the beauty and the challenge of this "field". We offer our considerations below on the themes that are presented in this collection.

Special Issue Themes

Technological Necessity and Negotiating Virtual-Physical Teaching and Learning Practice

Necessarily, one of the dominant themes of this collection is technology. All higher education institutions had to make a quick switch to technology and online instruction (Parviz, 2024). Zoom

and other platforms for video meetings, and learning management systems (LMS) became a household name, as many of the articles in this collection explore. An increased reliance on technology for teaching and learning during the pandemic has since changed both teacher and student expectations in the post-COVID "disruptive innovation" and emerging learning landscape (Powell et al., 2024). Nugroho & Biasutti highlight the innovations that were necessitated during COVID-19, especially for discipline areas traditionally taught - and assumed required - face-to-face teaching environments (2024). In their research with music instructors, they were challenged with low sound quality and instrument availability, though they experienced benefits like flexibility and accessibility of learning.

As technology was a dominant theme, Parviz's study reminds us of the need to advance any technology within global higher education, equitably (2024). This refers to accounting for both varying infrastructural internet connectivity across countries (recognising our global higher education connected-community) and access to technology and connectivity across demographics.

Ironically, one of the contentions of sustainability education pedagogies that has long been advocated in the field (Smith & Sobel, 2010), is to spend more time in and with the natural world and reduce our dependence on technology for a sustainable future. Another topic that emerged related to the outdoors as a sustainable space and as a novel teaching environment. For instance, transforming the concept and practice of Outward Mobility Experiences of immersing students in diverse cultural, environmental, and economic contexts through internships and placements into Virtual mobility experiences was explored by Vermeulen et al. (2024). This was a positive shift as the field aims to connect students with nature and place-based education as a way to care for it as a "hidden curriculum". Vermeulen et al. challenged us to consider how virtual mobility programs can support developing student sustainability capabilities and offer a case study from India-Australia (2024). This was an initiative that emerged because of the COVID-19 pandemic. The authors reflected on how their virtual program, which was traditionally delivered through in-country experiences, was able to support the development of globally aware graduates, capable of addressing complex sustainability challenges. Such research highlights the need to continually reflect on how teaching and learning are delivered with carbon intensity in mind. In support of shifts to online sustainability learning, Vesala-Varttala's analysis of student journals found that fully virtual learning during the pandemic fostered students' introspective self-awareness and reflective learning, whereas blended learning post-pandemic led to a reduced commitment to reflective practices (2024). These findings encourage those working in higher education to consider the practice of deep reflection to enhance sustainability competencies integrated into any form of learning. Also, how reflection can support meaningful collaboration among students. Reflection is one phase of a transformative learning process and to sustain change, self-reflection and self-awareness will also require action. Action requires hands-on, community engagement, and non-virtual experiences. Perhaps what we are seeing here as we shift from the virtual world back to in-person experiential spaces is the idea of online learning serving as a vehicle to deepen the learning process so that the social connections needed to take action can bring nature and place-based experiences "to stick".

Social Sustainability: A Pedagogy of Hope and Love

Social connections were devastated all around the world as physical distancing requirements to keep the humans of the world safe during the COVID-19 pandemic were mandated. For many of us, this led to a loss of relationships, or insufficiency in the way relationships could be established and maintained; ultimately taking a toll on mental health and wellness. In higher education during (Aristovnik et al., 2020) and after COVID-19, increasing student support has been necessary (Rapanta et al., 2021; Collins et al., 2022). Whether accounting for students' physical health or emotional well-being, how student support and learning traditionally occurred soon proved insufficient during COVID-19 in higher education provision (Bouchey et al., 2021; Camilleri, 2021; Neuwirth et al., 2020).

Many of the papers in this collection reflect on the social challenges brought about by the COVID-19 pandemic and the impact this had on collegial and teacher-student relations. While much can be said for the negative impacts on mental health and relationship building, the articles included here emphasise the ways that authors adapted to support collegiality and to find pedagogical approaches that were conducive to the conditions of the time, and nourishing for teaching staff as well. As editors who were all engaged with teaching during and subsequently after the COVID-19 pandemic, we deem this to be no small feat. In their study, Ashford et al. highlight how through a collaborative process of reflecting on teaching sustainability amid the COVID-19 pandemic, belonging, community and support could be found (2024). Through the practice of *phronesis* (reflection leading to practical wisdom), the authors speak to the value of integrating theory with practice, highlighting active engagement as a requirement and the importance of creating realistic hope for change, especially in times of crisis. It becomes apparent through their reflections, the need for sustainability educators to connect with each other as a means of sustaining themselves and finding new ways of guiding students towards transformative education that inspire new ways of being on the planet.

Challenges of teaching during and after the COVID-19 pandemic are sensitively discussed by Santa-Ramirez through focusing on the importance of sustainable, radical love, grace, and care in culturally relevant ways to sustain pedagogy (2024). What is brought forth for consideration through this piece is an advocacy for higher education educators to address real-life issues, such as injustices and systemic oppression, within the classroom as a means of promoting critical consciousness and personal transformation. Despite potential political and institutional barriers, Santa-Ramirez addressed the significance of implementing aspects of compassionate teaching and social sustainability to support student success and to create equitable learning spaces. They also advocate for the need of ongoing reflection, adaptation, and a commitment to centering love in pedagogical practices for a more just and inclusive future.

Social learning is one of the theoretical underpinnings of education for sustainable development. To collectively relate and bring ideas to the learning spaces, social learning had to be done - differently. This difference was exhibited in several of the articles as the innovation of how to connect. As noted briefly above, there were novel ideas presented in the articles on pedagogical connections, though throughout the pieces showcased here, it is evident that virtual connection cannot be a substitute for being and working in the community. This loss of community took a toll on mental health and wellness unveiling the mask of this issue that had been there pre- COVID-

19, but until 2020, had not been normalized in classroom, or recognised as a systemic issue requiring institutional support and response.

A New Era for Sustainability Teaching and Learning

It is evident that COVID-19 launched us into a new era for the future of sustainability teaching and learning in higher education. We have increased our use of technology and have adapted to new and integrative ways of addressing sustainability. As the editors reflect on these articles, the call for this special issue, and the current times we are in compared to the time of this call for papers, it is evident that new practices for teaching sustainability are here to stay. This necessitates an engagement with the systems and structures that (dis)enable practice moving forward. Two papers offered thoughts of how policy supports education for sustainable development and how it can/should be evaluated. Mospan's Ukrainian-based research suggests a need for more interdisciplinary approaches and digital tools to address sustainability effectively and sheds light on the ways that Ukraine structures their approach to implementation of education policy (2024). Powell et al. usefully offer a Higher Education Triangle as a tool for analysis and reflection to aid higher education institutions in understanding their current situation and guiding future development towards sustainable development aims (2024). The authors contend that institutions must be open and adaptive in the creation of 'products' and 'services', while decision-makers should explore the potential of disruptive innovation to examine sustainable development pathways.

One area which we see a need for further exploration to advance sustainability in higher education teaching and learning is at the policy or administrative level. Will we be able to continue to deploy our online and new technology approaches to our practice or will there be a shift to return back in person? If so, will we lose all that we have gained through these "disruptive innovations"? Will we continue to address a pedagogy of hope, and love in building special kinds of communities such as virtual communities, or will we return to in-person and forget what we have gained? This is a real challenge and complex issue. We have learned that online has offered more access to students, and yet at the same time, higher education institutions need to maintain and foot the bill for their physical brick-and-mortar campuses - for students and staff, which has economic resource (and environmental impact) implications. In either case, our contributors offer many flavourful entry points for sustainable change. Let us heed the call and not lose the momentum of innovating, creating, and sustaining practices of teaching and learning conditions that COVID-19 has created for us.

Conflict of Interest

References

Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: The challenges and opportunities. *Interactive Learning Environments*, 1–13. https://doi.org/10.1080/10494820.2020.1813180

Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability*, *12*(20), 8438. https://doi.org/10.3390/su12208438

Atherton, G. (2021). Perspectives on the challenges to access and equity in Higher Education across the world in the context of COVID. National Education Opportunities Network (NEON).

Baker, S. (Ed.), 1997. The politics of sustainable development: theory, policy and practice within the European Union, Global environmental change series. Routledge.

Bal, M., & van den Bos, K. (2022). Social Justice and the Justification of Social Inequalities. In *Solidarity and Social Justice in Contemporary Societies: An Interdisciplinary Approach to Understanding Inequalities* (pp. 41-51). Springer International Publishing.

Bouchey, B., Gratz, E., & Kurland, S. (2021). Remote student support during COVID-19: Perspectives of chief online officers in higher education. *Online Learning*, *25*(1), 28-40. https://doi.org/10.24059/olj.v25i1.2481

Burki T. K. (2020). COVID-19: consequences for higher education. *The Lancet. Oncology, 21*(6), 758. https://doi.org/10.1016/S1470-2045(20)30287-4

Camilleri, M. A. (2021). Evaluating service quality and performance of higher education institutions: a systematic review and a post-COVID-19 outlook. *International Journal of Quality and Service Sciences*, *13*(2), 268-281. https://doi.org/10.1108/IJQSS-03-2020-0034

Chancel, L. (2020). Unsustainable inequalities: Social justice and the environment. Harvard University Press.

Collins, K., Dooley, G., & O'Brien, O. (2022). A reflection on evolving student support in a post-pandemic higher education environment. *Journal of Applied Learning and Teaching*, *5*(2), 42-50. https://doi.org/10.37074/jalt.2022.5.2.6

Crawford, J., & Cifuentes-Faura, J. (2022). Sustainability in higher education during the COVID-19 pandemic: A systematic review. *Sustainability*, *14*(3), 1879. https://www.mdpi.com/2071-1050/14/3/1879

Estes, R.J., 2010. Toward Sustainable Development: From Theory to Praxis, in: Negi, N.J., Furman, R. (Eds.), Transnational Social Work Practice. Columbia University Press, pp. 76–108. https://doi.org/10.7312/negi14448-005

IPBES. (2019). Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (Version 1). Zenodo. https://doi.org/10.5281/ZENODO.3831673

Leal Filho, W., Raath, S., Lazzarini, B., Vargas, V.R., de Souza, L., Anholon, R., Quelhas, O.L.G., Haddad, R., Klavins, M., Orlovic, V.L. (2018). The role of transformation in learning and education for sustainability. *Journal of Cleaner Production. 199*, 286–295. https://doi.org/10.1016/j.jclepro.2018.07.017

Leal Filho, W., Shiel, C., Paço, A., Mifsud, M., Ávila, L. V., Brandli, L. L., Molthan-Hill, P., Pace, P., Azeiteiro, U. M., Vargas, V. R., & Caeiro, S. (2019). Sustainable Development Goals and sustainability teaching at universities: Falling behind or getting ahead of the pack? *Journal of Cleaner Production*, *232*, 285–294. https://doi.org/10.1016/j.jclepro.2019.05.309

Neuwirth, L. S., Jović, S., & Mukherji, B. R. (2021). Reimagining higher education during and post-COVID-19: Challenges and opportunities. *Journal of Adult and Continuing Education, 27*(2), 141-156. https://doi.org/10.1177/1477971420947738

Owens, T. L. (2017). Higher education in the sustainable development goals framework. *European Journal of Education*, *52*(4), 414–420. https://doi.org/10.1111/ejed.12237

Pörtner, H. O., Roberts, D. C., Adams, H., Adler, C., Aldunce, P., Ali, E., Ara Begum, R., Betts, R., Bezner Kerr, R., Biesbroek, R., Birkmann, J., Bowen, K., Castellanos, E., Cissé, G., Constable, A., Cramer, W., Dodman, D., Eriksen, S. H., Fischlin, A., ... Zaiton Ibrahim, Z. (2022). *Climate change 2022: impacts, adaptation and vulnerability*. IPCC. https://edepot.wur.nl/565644

Radinger-Peer, V., & Pflitsch, G. (2017). The role of higher education institutions in regional transition paths towards sustainability: The case of Linz (Austria). *Review of Regional Research*, *37*(2), 161-187. https://doi.org/10.1007/s10037-017-0116-9

Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2021). Balancing technology, pedagogy and the new normal: Post-pandemic challenges for higher education. *Postdigital Science and Education*, *3*(3), 715-742. https://doi.org/10.1007/s42438-021-00249-1

Robinson, F. (2006). Care, gender and global social justice: Rethinking 'ethical globalization'. *Journal of global ethics*, *2*(1), 5-25. https://doi.org/10.1080/17449620600677213

Steinþórsdóttir, F. S., Carmichael, F., & Taylor, S. (2021). Gendered workload allocation in universities: A feminist analysis of practices and possibilities in a European University. *Gender, Work & Organization*, *28*(5), 1859–1875. https://doi.org/10.1111/gwao.12709

Smith, G.A., & Sobel, D. (2010). Place- and Community-Based Education in Schools (1st ed.). Routledge. https://doi.org/10.4324/9780203858530

Sonetti, G., Brown, M., & Naboni, E. (2019). About the Triggering of UN Sustainable Development Goals and Regenerative Sustainability in Higher Education. *Sustainability*, *11*(1), 254. https://doi.org/10.3390/su11010254

United Nations, U.N., (2015). RES/70/1 Transforming Our World: the 2030 Agenda for Sustainable Development.

Watermeyer, R., Crick, T., Knight, C., & Goodall, J. (2021). COVID-19 and digital disruption in UK universities: Afflictions and affordances of emergency online migration. *Higher Education*, *81*(3), 623–641. https://doi.org/10.1007/s10734-020-00561-y