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COVID-19: the "New Normal" and the Future of Higher Education

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1. Introduction

The COVID-19 pandemic, which emerged in early 2020, left no area of social, economic and cultural life untouched. The closing down of economies and associated lockdown measures world-wide wreaked havoc on the rhythm of day-to-day life at an individual and institutional level. In higher education, the shutdown of campus-based learning and teaching affected some 20 000 institutions and 200 million students globally (Salmi, 2020:5) while in South Africa it affected just over 800 000 students enrolled in the 25 campus-based public universities and approximately 100 private higher education institutions.[1]

The enforced closures of higher education institutions with no prior warning as governments attempted to mitigate the health impact of the pandemic, and the uncertainty and unpredictability of its duration, resulted in a pivot to online teaching and learning. This, together with the more general move to remote working in a range of occupations and professions (in particular in service industries), has been interpreted as the "new normal" which, as futurists would argue, has been a revolution waiting to happen given the technological innovations linked to the emergence of the fourth industrial revolution (4IR). However, as Gary McCulloch suggests, COVID-19 is not "new". Historically, it is a "reassertion of the normal" which, according to William McNeill, a leading historian of pandemic infectious diseases, is "one of the fundamental parameters and determinants of human history" (McCulloch, 2020:3). Pandemics come to an end but the virus is unlikely to be eliminated completely although its "perceived risk" will be reduced with vaccination and regular boosters, much like the annual flu (Gross, 2021). In this sense, as McCulloch suggests, COVID-19 is the "new abnormal" as it has shattered the "illusion that humanity can control or insulate itself from the demands of nature and the limitations of the planet" (McCulloch, 2020:3).

The "new normal abnormal" notwithstanding, the resultant social and economic crisis has given rise to the view that it provides an opportunity to rethink and reimagine the social and economic structure and organisation of society. The most persuasive proponent of this view is the Indian activist and novelist Arundhati Roy:

> Whatever it is, the coronavirus has made the mighty kneel and brought the world to a halt like nothing else could. Our minds are still racing back and forth, longing for a return to "normality", trying to stitch our future to our past and refusing to acknowledge the rupture. But the rupture exists. And in the midst of this terrible despair, it offers us a chance to rethink the doomsday machine we have built for ourselves. Nothing could be worse than a return to normality. Historically, pandemics have forced humans to break with the past and imagine their world anew. This one is no different. It is a portal, a gateway between one world and the next (Roy, 2020).

[1] The impact of the pandemic on the University of South Africa (Unisa), which is a distance education institution was limited to examinations, which are written in public centres across the country and in South African embassies and other venues globally.

In higher education, there seems to be little appetite for a return to normality. The "new normal" - online teaching and learning - is accepted as the future trajectory of the sector. It has been argued that the onset of 4IR and the "dazzling array of technologies" available has dissipated resistance to online teaching and learning and "forced South African universities to take a sudden leap into the future" (Motsepe Foundation, 2021). Huxley's "brave new world" beckons on the horizon.

There are two main perspectives on the role of online teaching and learning as the "new normal" in higher education. On the one hand, and mainly at the leadership level within institutions, it is seen as an opportunity to address a range of challenges that confront higher education such as large classes, the different learning needs of students from diverse backgrounds and better use of staff time (USAF a&b, 2020). On the other hand, and mainly from outside institutions, it is seen as an opportunity to disrupt the perceived broken model of higher education in terms of curriculum relevance, skills needs, the length and duration of qualifications, access to lifelong learning and financial sustainability (Galloway, 2020; Salmi, 2020; Williamson & Hogan, 2020).

There is no gainsaying the fact that the pandemic has been disruptive and provides an opportunity to rethink and reimagine higher education and, in particular, to address the pervasive inequalities that continue to characterise higher education systems and which have been exacerbated by the shift to online teaching and learning. As a group of teaching and learning and higher education scholars[2] in South Africa point out:

> The current crisis has made it impossible not to recognise the historical, geospatial, economic inequalities of the country and the world students live in. In a certain sense, the pandemic, and the pivoting to online made visible, the invisible, or ignored manifestations and mechanisms of inequality (Czerniewicz et.al., 2020a: 949).

However, it is arguable whether the "new normal" as the point of departure for rethinking and reimagining higher education will lead to greater equity and social justice. The purpose of this report is to highlight the challenges confronting higher education as it grapples with its future trajectory based on a preliminary assessment of the impact of COVID-19 on higher education in South Africa and the rest of the world. Although it is too early to make a full and definitive assessment, which would require more detailed and substantive studies, it is possible from the experience of the past year to discern and identify emerging trends and challenges of the impact and implications of the pandemic for higher education. The report's main finding is that the uncritical acceptance of online teaching and learning as the "new normal" will result in entrenching and exacerbating existing inequalities and in undermining the social purpose of higher education.

[2] The group consists of "academics, educational technology specialists and academic staff developers" from 15 of the 26 public universities in South Africa (Czerniewicz et al., 2020: 947).

The report is based on a review of articles on the impact of COVID-19 on higher education in the print media, reports and surveys undertaken by national and international associations and special journal issues between March 2020 and February 2021. Although the focus of the report is both national and global, the availability of information is a limiting factor. At the global level, the available information is primarily from higher education institutions in developed countries, in particular Australia, North America and the United Kingdom. In South Africa, it is primarily from the historically advantaged (or white) institutions. This does not, however, detract from the findings as the impact of the pandemic, although accentuated by the socio-economic background and context of students and institutions, is broadly similar across the higher education system globally.

2. The Online Turn: Impact and Implications

Higher education institutions were faced with a stark choice in response to the lockdown measures imposed by governments across the world following the declaration of COVID-19 as a pandemic by the World Health Organisation (WHO) in March 2020: close down or develop alternatives to campus-based teaching and learning. In the face of all the evidence, however speculative, that pointed to a long drawn-out pandemic with little indication as to when normality would return, closing down universities would have had dire consequences both for students and for institutions. Although closure affected students differently depending on geographical location – in South Africa it coincided with the start of the academic year while in the northern hemisphere it coincided with the mid-point in the academic year, with final examinations and graduation imminent - its impact on students (personal, financial and career-wise) if the academic year was not completed would be the same. And at the institutional level, closure would have impacted on their financial sustainability if tuition and accommodation fees had to be refunded. Hence the pivot to online teaching and learning to save the academic year and institutions from financial ruin.

However, while the majority of institutions globally, including in South Africa, moved to online teaching and learning, there were exceptions; for example, the University of Buenos Aires in Argentina postponed classes and rearranged the “academic calendar rather than switch to online classes, on the traditional assumption that only in-person courses could guarantee quality” while public universities in Bangladesh delayed the move due to connectivity and staff capacity concerns (Salmi, 2020: 19) and institutions in Brazil closed because of poor internet access (Marinoni and van Land, 2020: 8).

The shift was overnight and caught institutions unprepared, with little or no room or time to plan a phased introduction. The scale and complexity of the process, as the experience of the University of Johannesburg indicates, included familiarising staff and students with the tools of online teaching and learning, revising the academic calendar, revising course modules to provide for deferment of practicals, developing appropriate online assessment tools and ensuring that the changes to academic programmes were approved by the relevant academic structures (Motala and Menon, 2020: 87-88).

The lack of institutional readiness for online teaching and learning cut across institutions in high, middle and low-income countries. Although institutions in high and middle-income countries were better prepared in terms of internet and broadband access, learning management systems and teaching and learning units to support academics to move their courses online, few had risk management and business continuity plans in place to do so. The exceptions were institutions in countries or regions where academic activities have been impacted by regular natural disasters such as earthquakes and fires or by outbreaks of infectious diseases such as SARS (Japan, Singapore, California and New Zealand) or perennial and sustained student protests (Chile and South Africa) (Salmi, 2020: 20-21).

Similarly, institutions that had made investments in, and had some experience of, online teaching and learning were better prepared to respond to the pandemic (van Vught, 2020: 37). Furthermore, while many institutions had identified online teaching and learning as an integral component in their strategic plans, few had moved to full implementation. Thus, while about 60% of the participating universities in the 2020 UMultirank[3] database had plans for introducing online teaching and learning prior to the outbreak of the pandemic, less than a third had done so in practice. There were also significant differences between disciplines and fields of study, with fewer than 3% of programmes in engineering and the sciences fully online compared with 12% in business studies and 7% in economics (van Vught, 2020: 35-37). Similarly, in Africa, while many universities had learning management systems in place to introduce online teaching and learning, this was either not implemented (Ssebwami, 2020) or done on a small-scale and, moreover, the "digital learning infrastructure was neither designed nor prepared for a virtual transition of such magnitude as that caused by COVID-19" (Woldegorgis, 2022: forthcoming).

The shift to online teaching and learning to save the academic year was not without criticism in South Africa from two perspectives. First, a Concerned Academics group argued that it would exacerbate and widen existing inequalities as it ignored the lived realities of the majority of students and staff in terms of access to the necessary digital tools and technology and a conducive environment for online teaching and learning:

> These realities are not conducive to teaching and learning as they are marked by inadequate spatial and living conditions, lack of proper infrastructure, reliable electricity, data, technology, and access to food and water. The move to online teaching and learning ignores inequalities engineered by colonialism, apartheid, capitalism, patriarchy, homophobia, xenophobia and neoliberalism. It reinforces nationality, class, race and gender inequities. Current "alternative strategies" being put forward will mark, stigmatise and ghetto-ise many of the most vulnerable and

[3] UMultirank is a European Commission initiative to develop an institutional ranking system that "compares institutions with similar institutional profiles ('like-with-like') and allows users to develop their own personalised rankings by selecting indicators in terms of their own preferences" (www.umultirank.org).

> marginalised communities. “Going online” and providing “alternative strategies” will render the economically deprived the proverbial sacrificial lamb while the privileged few benefit and move ahead with the curriculum (Concerned Academics, 2020: 2-3).

They proposed that, as the pandemic would preclude universities from completing the academic year in a “socially just manner”, the academic programme for 2020 should be suspended and replaced with, in line with Roy’s “portal moment”, a social pedagogy that “allows students to learn as they shelter in place” during the lockdown. This would require adjusting curriculum and assessment practices to “allow students to reflectively observe and investigate their experiences of the present moment in terms of the knowledge, skills and values they learn in formal settings; and for teachers to learn and practice social pedagogy within communities, under lockdown conditions”. Furthermore, that the development of the social pedagogy model should be undertaken through a consultative process with stakeholders, including “students, parents, communities, CSOs, community education centres, unions, and workers, as well as state and institutional partners” (Concerned Academics, 2020:4-6).

Second, Sayed and Singh argue that the emphasis on saving the academic year was focussed narrowly on the curriculum, in particular the “loss of learning time”, and detracted from the broader goals and purposes of education in terms of developing the “social and civic skills” required to enable students to participate as citizens in a democratic society:

> This content-focused approach ignores the ideas of education as socially relational, and learning as a socially constitutive activity occurring relationally between learners and teachers, and amongst learners themselves. Content-focused curriculum, on which much online learning relies, tends to instrumentalise education and learning, reducing the expansive notion of education quality to content mastery (Sayed and Singh, 2020: 28).

The impact of the shift to online teaching and learning in exacerbating existing inequalities in learning outcomes both within and between institutions, countries and regions is not in question. This is the result of the “digital divide” in terms of access to the digital equipment, facilities and infrastructure necessary to pursue online learning. Indeed, it is a myth that the pandemic is a “great equaliser” (Salmi, 2020: 16). It is not “an equal opportunity pandemic” which impacts equally and in the same way on all institutions in Africa and globally, as suggested by Benjamin Ola Akande, the Assistant Vice-Chancellor International Affairs-Africa at Washington University in St Louis in the United States (USAf, 2020a).

The digital divide is stark in the case of sub-Saharan Africa as indicated by the fact that 82% of students do not have access to the internet or household computers, internet usage is 26.3% as against a global average of 51.4% and internet penetration is 47%, with significant inequalities between urban and rural areas, as against 60% in Asia, 71.5% in Latin America, 87.2% in Europe and 90.3% in North America. Furthermore, it is exacerbated by the cost of data and devices, in particular laptops.

In sub-Saharan Africa, the cost of 1GB of data is the equivalent to 7.12% of income while the market share of laptops is 37.15% as against 60.27% for cell-phones and 2.57% for tablets (Woldegiorgis, 2022: forthcoming). However, the disparities linked to the digital divide are not limited to sub-Saharan Africa. They impact on poor and working class students in the developing and the developed world. As Salmi predicts:

> In the medium to long term, COVID-19 is likely to have negative effects on the learning outcomes, graduation rates, employability, and job prospects of traditionally under-represented students and on the economic health of higher education institutions (Salmi, 2020: 16).

In South Africa, the extent of the digital divide is illustrated by the fact that, although in terms of place of residence 97.5% of students live in municipalities where more than 50% of households have access to electricity, just over half (53.15%) live in municipalities where between 10% and 20% of households have internet access and just under half in municipalities where between 30% and 47% of households have access to a suitable device - either a laptop or tablet (irrespective of whether shared or not) (Whitelaw et al., 2020).

The transition to online teaching and learning in South Africa was also affected by the deep-seated inequalities between the historically white or advantaged institutions (HAIs) and the historically black or disadvantaged institutions (HDIs) which are a legacy of the apartheid past. This is reflected in the fact that the HAIs were able to transition to online teaching and learning by mid-April (two weeks after the announcement of the lockdown measures by the President) and to complete the academic programme by the end of the year while the HDIs in most cases only began online teaching and learning in June and July and extended the academic year to March 2021 (Moosa, 2020).

The institutional inequalities also impacted on students. The HAIs, which are better resourced and have fewer poor and working class students, were able to provide them with laptops and other materials; for example, the University of the Witwatersrand was able to provide 5 000 laptops to approximately 15% of its students who did not have access to them (USAf, 2020b&c). At the HDIs, on the other hand, where the large majority of students are dependent on state financial support through the National Student Financial Aid Scheme (NSFAS) and institutional resources are limited, laptops were not distributed until August-September because of procurement problems at the NSFAS (Linden, 2020; Unizul, 2020).

The social nature and purpose of higher education, in particular the fact that learning takes place inside and outside the lecture hall and seminar room, is also not in question. This is indicated by the students' experience of the shift to online teaching and learning which is discussed below. As Ahmed Bawa, the CEO of Universities South Africa (USAf) argues:

> Universities are, by their very nature, places of engagement, debates and the exchange of a plurality of ideas - an activity that best plays out face-to-face and in physical spaces. If higher education institutions switch completely to online delivery of the curriculum, how will they mediate their core other function of nation-building and the socialisation and acculturation of new generations of intellectuals? I doubt that this fundamental function would be facilitated through online learning and, therefore, doubt that it is a project for universities to go fully online (USAf, 2020a).

The validity of the critique of the shift to online teaching and learning notwithstanding, what it fails to recognise is that higher education institutions were faced with Hobson's choice - the alternative to online teaching and learning was to close the institution, which would have aggravated the "lived realities" of the majority of students who come from poor and working class families. The delay in the start or completion of their studies would have adversely impacted on them and their families in terms of their careers and the sacrifices made to enable them to further their education, including the additional burden of providing support if bursaries and scholarships were discontinued for the duration of the pandemic. Thus, suspending the academic programme would not have ameliorated but exacerbated existing inequalities. Furthermore, the merits of the proposal notwithstanding, developing a social pedagogy along the lines suggested would have taken, even in the most favourable circumstances the better part of the year at least. In the context of the pandemic and lockdown, consultation with stakeholders and developing the model would have been well-nigh impossible, let alone getting agreement within the academic community. The idealism of the "portal moment" is well and good for those who have the luxury of reflection perched on "ivory towers" but it has little resonance with the "lived realities" of those on the ground. Indeed, given that inequalities characterised higher education pre-COVID-19, taken to its logical conclusion, the Concerned Academics' argument would require closing down institutions until all students entering higher education did so equally in terms of access to financial resources and social, educational and capital. This is not to downplay the issue of social justice but to recognise that, as the higher education and teaching and learning scholars suggest, social justice requires a pragmatic approach in terms of which, instead of "doing nothing, so that no-one is disadvantaged", the barriers to online teaching and learning should be addressed through appropriate interventions, including face-to-face "second" opportunities when lockdown measures are eased (Czerniewicz et al., 2020: 952). In a similar vein, Adam Habib, the then vice-chancellor of the University of the Witwatersrand argues:

> Social justice doesn't require a reversion to the lowest common denominator. It requires an awareness of inequalities and an active intervention to mitigate its consequences. This is what we have done (quoted in Nowicki**,** 2020).

The pragmatic approach seems to have found favour with students as the threats by student organisations to boycott online learning unless institutions could guarantee equal access to all students did not materialise (Nowicki**,** 2020). In fact, the evidence suggests that while students highlighted and were concerned about the challenges posed by, and the impact of, online learning given adverse social and economic

conditions, they were not opposed to it in principle and recognised and appreciated, the efforts of institutions to save the academic year (DHET, 2020).

The fact that the 2020 academic year was successfully completed in South Africa and elsewhere points to institutional resilience and organisational agility in the face of the pandemic which is in contrast to the traditional perception of institutions as staid and resistant to change. As Michael Gaebel of the European University Association argues:

> While the university model is often depicted as rather static, adverse to change, and impossible to govern, due to its collegial model, in the current crisis it has been rather proficient and demonstrated resilience and adaptability that exceeded expectations (Gaebel, 2020: 15).

This suggests that the much derided emergence of managerialism and associated corporate culture in higher education in recent decades, which has supplanted the collegial model, may well have been a factor in enabling institutions to respond quickly and flexibly, as Menon and Motala argue, with regard to the transition to online learning and teaching at the University of Johannesburg (Menon and Motala, 2020: 93). However, the "success" of the shift to online teaching and learning should be treated with caution. The academic year was saved but at what cost in terms of student learning and the quality of provision? Although it is too early to assess and there is no supporting evidence, it can be assumed that student learning has been incomplete (Salmi, 2020: 42). This has been recognised by a range of institutions in the USA and Canada, which in response to student demands have agreed to replace examination grades with a pass/fail symbol (Leingang, 2020; Slugoski, 2020). Furthermore, in South Africa and elsewhere, as discussed below, academics have taken a more lenient approach to grading assignments, tests and examinations. The incomplete nature of learning in general is confirmed by limited evidence from two studies of the impact of COVID-19 related online teaching and learning in schooling in Australia (Salmi 2020: 42) and the Netherlands (Kellaway, 2021), which indicate lower learning achievements. The Dutch study found "children who missed eight weeks of school during lockdown were still a full eight weeks behind when later tested", while students from "more disadvantaged backgrounds" were behind by 12 weeks. This despite the fact that the Netherlands has "some of the best internet access in the world" which indicates, as Kellaway argues, that online teaching and learning may be "better than nothing but is the feeblest imitation of the real thing" (Kellaway, 2021). The impact of COVID-19 on the quality of teaching and learning in higher education, in particular throughput and drop-out rates, requires further research especially given the high pre-COVID-19 undergraduate drop-out rates in South Africa.[4]

[4] On average, at the undergraduate level, depending on the qualification, between 40% and 55% drop out and between 25% and 50% graduate in regulation time in contact institutions (Essop, 2020: 61).

3. Online Teaching and Learning vs Emergency Remote Teaching and Learning

The pivot to online teaching and learning - the "new normal" - is increasingly viewed by many institutional leaders in South Africa and across the world as the future of higher education. The form it takes – fully online, hybrid or blended - will be determined by institutional contexts and priorities. However, there is a growing consensus that there is no going back. It is here to stay and will be central to the strategic direction of universities going forward (Mtshali, 2020; de Villiers, 2020). As Tawana Kupe, the vice-chancellor of the University of Pretoria argues:

> A return to purely contact learning is not going to be possible. People have experienced something that seems more relevant to a future marked by increasing digitisation (quoted in Mtshali, 2020).

This view is echoed by other vice-chancellors including Adam Habib (Wits University), Mamokgethi Phakeng (University of Cape Town) and Wim de Villiers (University of Stellenbosch) (Mtshali, 2020; de Villiers, 2020a, USAf, 2020a&b,). The apparent advantages of online teaching and learning, as outlined by Phakeng and de Villiers include increased access; enriched teaching and learning, which addresses the needs of disadvantaged students; better management of academic workloads; and increased income:

> The reasons for this are simple. On the one hand, it broadens access to knowledge and development. Many more people can be accommodated online than in lecture halls. On the other hand, it also enriches the learning and teaching experience. Students are able to revisit recordings of lectures when preparing for tests and exams, and tricky concepts can be illustrated and explained with videos and animation (de Villiers, 2020a).
>
> The new way puts the needs of students with barriers to learning at the forefront. It helps us design good learning experiences and reconsider methods of assessment. Students can revisit online course material, ask questions and get personal support, in and out-of-normal teaching hours. It's especially helpful to students who are second-language English speakers or who have a disability … New ways of teaching can release human capacity by allowing lecturers to manage their course loads more easily. And if they make it possible to increase the number of students who can enrol in certain courses, then they could bring more income to the institution, to help finance human capacity or infrastructure development (Phakeng quoted in Mtshali, 2020).

Habib adds that "anecdotal evidence is showing that our students are performing better in the online environment than face-to-face" which suggests "we need to re-imagine how we test and assess our students' capabilities" (quoted in Mtshali, 2020).

The views expressed by the vice-chancellors suggest that online teaching and learning will contribute to addressing some of the intractable and deep-seated challenges that confront higher education in South Africa, in particular access and success. This may well be the case but it cannot be assumed from the online shift in

response to COVID-19. The shift was not a conscious strategy developed to enhance and enrich teaching and learning through the integration of technological innovations. If the potential of online teaching and learning in its different forms is to be realised, it requires distinguishing between online teaching and learning and the online shift in response to the pandemic. The latter can best be understood as a means of enabling teaching and learning to continue and to save the academic year in response to crises such natural disasters, war, student protests or health epidemics (Salmi, 2020: 20-21; Czerniewicz et al., 2019; Hodges et al., 2020). In short, it is a form of emergency remote teaching and learning (ERTL) which is temporary in nature and does not necessarily result in "disruptive innovation" leading to a fundamental restructuring of the curriculum and pedagogy in higher education (Burbules, 2020: 21). It is not, and should not be seen as, a long-term solution (Hodges et al., 2020). In contrast, online teaching and learning is the

> Intentional redesign of courses to alternative modalities … a process of thoughtful, intentional online redesign involves more than adopting an alternative delivery system. It changes content as well as form; it entails rethinking and sometimes abandoning familiar elements of classroom instruction with which we might be comfortable; it involves new perspectives on, for example, what 'communication' means in the classroom and what it is for. Done well, it takes time, technical support, and additional development costs (e.g. high-quality video) (Burbules, 2020: 21).

Developing and designing an online course is a complex process that typically takes between 6 and 9 months. It involves at least nine design dimensions[5] with a range of options within each, on which decisions have to be made taking into account the institutional context – size and shape (i.e. fields of study and programmes offered) – and the profile of the student body. Furthermore, its successful development is dependent on the necessary institutional infrastructure and support structures being in place, such as a teaching and learning unit, instructional designers, professional development opportunities including training for academic staff, learning management systems and IT systems and specialists (Hodges et al., 2020; Czerniewicz et al., 2019). In addition, in the same way that face-to-face teaching and learning is underpinned by an "eco-system" to support students with a range of resources outside the classroom - libraries, housing, career and health services, sport facilities and student clubs and societies - effective online education requires an eco-system to support students that is appropriate for online teaching and learning and this takes time to "identify and build" (Hodges et al., 2020).

The distinction between online teaching and learning and ERTL is important. In online education, like in face-to-face education, teaching and learning is approached as a "social and cognitive process". Indeed, the main elements of what constitutes a good online course are no different from the qualities of a good face-to-face course; that is,

[5] The nine dimensions are "modality, pacing, student-instructor ratio, pedagogy, instructor role online, student role online, online communication synchrony, role of online assessments, and source of feedback" (Hodges et al., 2020).

amongst others, that it is interactive, engaging, challenging and practice-oriented, has clearly defined skills and knowledge outcomes, promotes student agency and autonomy and has approachable and responsive teachers (Veletsianos, 2020). In contrast, ERTL in the main involves information transmission – uploading of material, recording lectures and so on to enable teaching and learning to continue in crisis situations. This is confirmed by a survey of the views of academics at the University of Cape Town (UCT) regarding the use of ERTL in 2015-16 in response to the student protests linked to #Rhodes Must Fall and #Fees Must Fall in South Africa. As Czerniewicz et al. (2019) indicate, the academics recognised that it was "disingenuous to conflate their online activities with what they considered to be "real" blended learning":

> Many suggested that most staff were just "putting stuff online" rather than engaging in a pedagogically rigorous activity worthy of the name, such as Respondent 6 who said, "Let's call that an online presence before it is even blended learning, just normal teaching we do that". Or, as Respondent 7 put it more matter-of-factly, "I think people just felt that they could just upload notes and that is what I think what most people did".

In the absence of evidence to the contrary, it is likely that by and large an "online presence" probably describes what took place in response to COVID-19. This is indicated by Adam Habib who points out that, although Wits has been experimenting with online learning for the past 5 to 6 years, only 12% of Wits' programmes were "pedagogically constructed to be online" (USAf, 2020c). It is also recognised by Francis Petersen (2020), the vice-chancellor of the University of the Free State, who suggests that "turning a course virtual in a short period of time, and more importantly, doing it well, is nearly impossible for faculty members accustomed to lecturing in front of students". There are, however, two caveats: institutions and academics who participated in ERTL in 2015-16 may have been better placed to think more carefully about their online presence; and this time around assessment and examinations were undertaken online, which required finding appropriate solutions, including how to prevent cheating. The latter notwithstanding, the assumption that ERTL in response to the pandemic lays the basis for online teaching and learning going forward is a leap of faith. This is evident if some of the arguments by the vice-chancellors above that online teaching and learning could contribute to addressing the challenges of higher education in South Africa are unpacked.

First, that online learning will enable increased access. It will certainly do that. However, as Habib indicates, it will also sharpen and exacerbate existing inequalities in access and success if the digital divide in terms of unequal access to digital infrastructure and resources - laptops, data, connectivity, home environment and so on - is not resolved (Mtshali, 2020; Jackson, 2020: 23). As Burbules argues, "if we are not careful, what we gain in expanding access to learning opportunities for some will be counter-balanced by a loss of opportunities for others. Not every reform is a 'win/win' (Burbules, 2020: 21) or as Jackson states, "as the world goes online, many get left behind" (Jackson, 2020: 23). In this regard, a study of massive open online

courses (MOOCs) offered by Harvard University and the Massachusetts Institute of Technology (MIT) found that students from affluent backgrounds were more likely to enrol in and complete MOOCs than students from low socio-economic backgrounds (Hansen and Reich, 2015). Moreover, as Sizwe Mabizela, the vice-chancellor of Rhodes University points out, fully online teaching and learning would be "misguided" given the high dropout and failure rates in distance learning in South Africa (USAF/HSRC, 2020). This is indicated by the fact that at Unisa the throughput rate after eight years for students enrolled in 3-year undergraduate diploma and degree programmes in 2010 was 14% and 22% respectively compared to 55% and 58% respectively for students at residential universities (Essop, 2020: 31). Similarly, in other countries, completion rates on online courses are lower; for example in Australia, "dropout is at least 20% higher for online students compared with on-campus students and degree completions are 2.5 times lower" (Taylor-Guy and Chase, 2020).

Second, that pre-COVID-19 about 60% of lecturers at UCT had "chosen to record their lectures", which according to the vice-chancellor suggests that academics may be more amenable to online teaching and learning than was the case previously (Mtshali, 2020). However, in the absence of clarity on the role and purpose of recorded lectures – stand-alone or as an aid to teaching - it does not necessarily say anything about the correlation between the recording of lectures and student learning and performance. Aside from the fact that asynchronous learning, which is facilitated by recorded lectures, may be more suitable for working adults than young students, there is evidence, albeit limited, that indicates that students' attention span in watching recorded lectures is six minutes while in face-to-face lectures attention declines are brief and intermittent. This is not an argument against recorded lectures; however, if they are stand-alone they should be interspersed, for example, with breakout discussions. All of this requires thought, planning and technological skill (Dennan, 2020).

Third, the anecdotal evidence that students have performed better (Mtshali, 2020) which was also indicated by the Minister of Higher Education and Training at the USAf Summit in December 2020 (Nzimande, 2020). Although this needs interrogation in terms of the actual performance of students in public universities in South Africa in 2020, it does not necessarily imply that learning has taken place or that it is an improvement on learning before COVID-19. In fact, as a group of academics have indicated, the improved performance is the result of a combination of reducing the number of assignments, including allowing students to submit assignments multiple times, and lenient marking:

> While we did our best in a difficult situation, we are not happy with the education our students received this year. On the books, marks may have improved and more students passed courses. But there are many reasons for this improvement that do not signal an improvement in education: students were given more than usual opportunities to submit work, we often reduced the number of assessments required

> to pass, and we tended to mark more leniently on account of the crises in student life that were caused by the pandemic. The marks that students received this year cannot be used as a benchmark for past or future years. Academics have worked hard to preserve the integrity of the academic year under enormous pressure, but we found ourselves in compromised positions as educators (quoted in Pikoli, 2020).

The fact that there was grade inflation is confirmed by data from UCT where, although the standard deviation was low, the median grade was higher according to Phakeng. She suggests that this was because of a combination of "less taxing assignments" and lenient or "sympathy" marking, including encouraging "our staff to be compassionate without compromising the quality of teaching" (Friedman, 2020). This suggests that the dividing line between compassion and quality is thin.

Academics in other parts of the world have also taken a similar approach, that is, allowing multiple submission of assignments and lenient marking. As indicated above, in the United States and Canada institutions have agreed to replace examination grades with a pass/fail symbol. A similar approach is being used by some Australian universities, including not reflecting failed grades in academic transcripts (Chrysanthos, 2020). In New Zealand, some universities have indicated that marks would be automatically adjusted upwards while others have indicated this will be done based on comparing post and pre-COVID-19 grades (One News, 2020). The different institutional approaches raise issues of fairness and have implications for careers and employment prospects.

Fourth, the suggestion by Phakeng that online teaching learning is better placed to address the needs of disadvantaged students, in particular, second language speakers and students with disabilities. There is no evidence to support this view. On the contrary, students with severe "impairments, such as those with total visual and hearing loss" are unable to participate in online teaching and learning as online platforms do not cater for such students (Ndhlovu, 2020: 143-144). Furthermore, aside from the phenomenon of low completion rates referred to above, Sebastian Thrun, founder of the MOOC provider Udacity, points out that a failed pilot integrating MOOCs into a mathematics programme at San Jose State University in California shows that it is not appropriate for students from low-income backgrounds:

> These were students from difficult neighbourhoods, without access to good computers, and with all kinds of challenges in their lives. It's a group for which this medium is not a good fit (quoted in Warner, 2017).

There is no doubt that exposure to ERTL may have made academics previously resistant to any online presence aware of the potential and possibilities of online teaching and learning. Furthermore, and importantly, it has highlighted poor teaching and learning practices in face-to-face education, in particular, in relation to students from diverse socio-economic and educational backgrounds. As the group of teaching and learning and higher education scholars argue:

> Although much has been made of the technology and the mode during this time, what has been educationally more critical is how the speedy move to ERTL exposed poor pedagogical practices, in particular, *practices which were insufficiently designed for actual students in asymmetric lives rather than ideal students.* Certainly, *where a technology-first approach to learning design exists, it existed before, where difficulties exist with assessment now, many of those difficulties arose through poor assessment practices while on campus.* And *where well-designed interactive learning interactions … are absent, they were absent before* (Czerniewicz et al., 2020: 950).

The distinction between online teaching and learning and ERTL notwithstanding, this suggests that reimagining higher education post-pandemic, in particular integrating technological innovations into the teaching and learning process requires critical interrogation and careful planning if it is to contribute to enhancing and enriching teaching and learning and addressing the challenges of access (equity) and success (development).

4. The Online Turn: Impact on Students

The impact of the shift to online teaching and learning in higher education on students globally has differed based on their social and economic background and context. However, as the President of the University of Sydney Student Representative Council (SRC) argues:

> universities should assume all students are inherently "disadvantaged" by the circumstances, whether due to technology access, their home environment, learning styles or loss of structure (Chrysanthos, 2020).

This provides a useful lens with which to assess the impact of the shift on students as it recognises that all students, irrespective of their socio-economic backgrounds, have been affected by it. Its impact is equal in terms of social, psychological and cognitive factors such as learning styles, motivation, mental health and the lack of human contact and interaction with peers and academics. However, its material impact in terms of factors such as access to technology, data, learning resources and a conducive home environment is unequal and disadvantages students from poor and working class backgrounds in both developed and developing countries. This underlines the point that COVID-19 is not an equal opportunity pandemic.

The common material factors in countries as different as Australia, France, Germany, Kenya, Nigeria, Switzerland, South Africa and the United Kingdom include a lack of access to devices such as laptops, data and internet connectivity, a conducive home environment and, in developing countries, a stable electricity supply (DHET, 2020; ITV Meridian, 2020; USAf, 2020c; Nyerere, 2020**;** Olasunkanmi, 2020; Packham, 2020). This is illustrated by the findings of student surveys in a number of countries. In Kenya, fewer than half (about 45%) of students enrolled in distance education programmes accessed course materials through their institutions' online platform and only two-thirds had a laptop (Nyerere, 2020); in the United Kingdom (UK), 27% of students were not able to access online learning because of internet connectivity (Packham, 2020);

in Australia, 41% of students reported IT-related problems (Zhou, 2020); and in Switzerland, institutions had “underestimated the question of students living in overcrowded homes” (USAf, 2020c).

In South Africa, the social and material factors are magnified by the historical inequalities and marginalisation of black students as result of the legacy of apartheid. This is reflected in the findings of a national survey of students enrolled in 24 of the 26 public higher education institutions which found the following:

- 96% own a device; of these the majority - 89% - own smart phones while about 60% own laptops.
- 51% of NSFAS students own laptops as against 69% of non-NSFAS students.
- 16% of students have access to home wi-fi; however, only 7% of NSFAS students have access to home wi-fi as against 33% of non-NSFAS students.
- 54% have a quiet place to study and 46% do not; however, 40% of NSFAS students have a quiet place to study as against 58% of non-NSFAS students (DHET, 2020: 7).

The disparities were in part mitigated by the provision of laptops pre-loaded with learning materials, including data packages and zero-rated access to institutional and other higher education websites, which USAf and the DHET negotiated with the main telecommunication companies. However, this was not adequate to address the challenges faced by poor and working class students, in particular in rural areas. These included, amongst others, poor network coverage (both mobile phone and internet connectivity) which hampered access (Daily Vox, 2020); the dropping of zero-rated users when networks were congested (Mthiyane, 2020); the lack of a stable and reliable power supply (load-shedding and power outages are common); and logistical difficulties in delivering laptops and printed material to villages in deep rural areas where there are no house numbers or street names and local pick-up points in shops and schools in nearby town requires access to transport, which is costly. These are societal challenges beyond the control of higher education institutions. The failure of the state to address them has shifted the burden onto communities and families to come together and to make sacrifices to overcome the barriers faced by students. Thus, for example, one student indicated that the community had “pooled their funds and purchased a solar panel” to enable her to charge her laptop when it arrived; and another student reported that, because of connectivity difficulties, her parents rented a room for her close to the university to enable her to “complete her studies in time” (Czerniewicz et al., 2019: 953-955).

The impact of the pandemic on students from different socio-economic backgrounds is starkly illustrated by the experience of four students - two African from HDIs (the peri-urban University of Limpopo and the rural University of Venda) and one Indian and one white from HAIs (the University of Cape Town and the University of Stellenbosch) (Bhengu, 2020):

- University of Limpopo: Ndaene Lephale, 3rd year, Bachelor of Administration (Local Government)

  Lephale says he has not been able to study, mainly because his institution is yet to outline a plan for online learning and because of his living conditions. “I share a house with 14 people. It is not conducive for me to study or catch up on my academics on any day. I have to wait to study at night when everybody in the family is asleep”. … he has not been in contact with any of his lecturers since lockdown [announced 2 months previously]. However, some have tried to assist students by uploading learning material. “The university has not announced any provisions for e-learning, let alone a comprehensive plan for the resumption of teaching and learning," he said.

- University of Venda: Billy Nthobeni, Bachelor of Commerce (Accounting)

  “The University of Venda has partially rolled out the online learning programme, meaning it is not yet at the level we anticipated.” He says though they are receiving notes via various platforms, they had very little communication with lecturers. “Lecturers send notes and tutorials via blackboard e-mails and WhatsApp. Students are being assessed with tests and assignments, which I submit via e-mails, WhatsApp and blackboard. Most lecturers haven’t communicated, some only send study slides, without proper instructions on what we are supposed to do” … connectivity and access to the internet is also an issue for him as he does not have a laptop.

- University of Cape Town: Kiara Maharaj, 1st year, Bachelor of Business Science

  For Maharaj lockdown has not affected her academic progress because her university has rolled out online learning fairly successfully and classroom pressure has been removed. “It hasn’t made much of a difference to my academics because of the online lectures. However, there has been an increase in some marks because of the ability to understand concepts in your own time and the pressure of understanding work in class is lifted off your shoulders." Maharaj has been able to access PDFs and narrated power-point presentations through the university’s online system and also has access to one-on-one interactions with tutors and lecturers when needed. Her biggest challenge has been managing the workload. “Often at home there are a few distractions, but with dedication and commitment these distractions become irrelevant. Another challenge is keeping track of the many tasks that need to be completed. It’s hard to find the time to do so, especially if one doesn’t fully understand the module. The fast pace at which work is thrown at us is often overwhelming and it becomes discouraging. Also, the interaction and learning is not the same as a face-to-face interaction,” she says.

- University of Stellenbosch: Francis Moran, 1st year, MB. BCh (Medicine)

  Moran has been itching to get his hands on a scalpel. For him, the lack of practical work has been the hardest part of lockdown. “I have been struggling to learn anatomy, which we do in first year, without the dissection practical. The other challenge has been group work, because I think the medical curriculum at Stellenbosch puts a lot of emphasis on group work." E-learning at his university started nearly a month ago and he has been able to get almost the same amount of engagement with his lecturers as

> he would have if he was on campus. Moran says studying A-levels, a UK curriculum, at school prepared him for the individual learning required. “Throughout high school I studied a lot and did a lot of work at home because I was doing A levels. I had to work outside school to keep up with the magnitude of content. One of the disadvantages of online learning is that you are not surrounded by people who are studying your course, so you can’t really engage with each other about the work,” he says.

These vignettes highlight more vividly than statistical surveys the impact of digital inequalities based on race and class and, although it is not foregrounded, gender. Female students have to bear the brunt of housework and childcare while studying at home.[6] It is therefore not surprising that thousands of students in South Africa signed an online petition calling on the DHET to enable them to return to their campus-based residences. The petition states:

> The problem is students want to go back to their accommodations [sic] in order to continue with their online learning studies. It’s an effective way for students because unlike home, students will have their own space to study and will concentrate better. At home, students are living under different circumstances which may lead to them not being able to concentrate. Other students are living in areas which have bad internet service and they can’t attend any online session. Others are facing challenges in their households, for example, abuse, noise and other things which negatively affect them academically (Mlamla, 2020).

In addition to digital inequalities, the major impact of the shift to online teaching and learning globally has been social and psychological. The absence of human engagement and interaction, and clarity and confusion regarding the “rapid digital transition” including limited training on online platforms, affected learning and led to a lack of motivation and heightened levels of anxiety, stress and depression (Chrysanthos, 2020; Bahaa Al Deen Al Nawas, 2020; Bourchachene, 2020; DHET 2020: 48-49). This is illustrated by the views of students from different countries which highlight the impact on all students, irrespective of socio-economic background:

- South Africa

  > Uncertainty whether you submitted at the right place. And also the technical issues contributes to anxiety, stress and depression especially when a particular assignment/quiz is about to be due (DHET, 2020: 48).
  >
  > The challenges were: adapting to online learning, time management, not being able to engage with lecturers and classmates, anxiety about being alone and not having to be surrounded with supporting classmates (DHET, 2020: 49).

- Morocco

  > “I feel pressured, even though there is no pressure and plenty of time,” Saloua said. [She] described herself as a visual learner and an extrovert who cannot truly

[6] In Australia, for instance, the gender impact of the pandemic is indicated by the fact that in 2020 the number of women enrolled in universities dropped by 7% as against 2% for men; and significantly 70% of the women dropping out were older - in the 25 and above age group (Zhou, 2020b).

concentrate unless there is motion and a real exchange of knowledge, something that remote learning does not provide. “Online learning is not for me … Sometimes, I feel like I can’t do much.”

“I always preferred working alone, and if I am motivated enough, I would be just fine.” Oumayma, an introverted student, also emphasized the positive impact that comes with attending classes, such as developing public speaking skills, as well as building a social network that can benefit all parties while taking the university journey.

For both Saloua and Oumayma, the major problem is psychological. They said that the enthusiasm, challenge, and excitement needed to overcome the situation are “nowhere to be found.” Instead, they always find themselves extremely unmotivated, even when “I do nothing, and I do have plenty of time” (Bourchachene, 2020).

- Australia

  Joanna Qiao said she learns mainly "through person to person workshops and actual conversations". "The lack of interaction kills me and my quality of work has gone down so much," she said (Chrysanthos, 2020).

In addition, it has been suggested that the lack of social interaction and engagement results in the loss of social capital as it hampers the development of networks and relationships that facilitate access to jobs and professional opportunities (Lappeman, 2021).

There can be little doubt that, in combination, these challenges have impacted on learning outcomes. Students in a range of countries have raised concerns regarding the quality of the education received as a result of the shift to online teaching and learning. A survey by the National Union of Students (NUS) in the UK found that one in three students believed that online teaching was of "poor quality" (ITV Meridian, 2020). Similarly, research undertaken by the UK House of Commons Petitions Committee found that “just 7% of students were satisfied with the quality of education received” in 2020, “while 87% said their teaching hours had decreased”. As one student informed the committee, “half my lecturers just stuck up last year’s recordings” (Adams, 2020). This was confirmed by a student at another university who indicated that in the spring term she had 40 hours of contact time with her tutor instead of the stipulated 120 hours and only 4 hours in the summer term. In her view, the university uploaded old lectures online instead of providing fresh content (Maddox, 2020). Students in Australia and New Zealand were similarly unhappy with the quality of education (Zhou, 2020a; Keogh, 2020), while the views of Dutch students were more mixed. A survey by the Dutch student union LSVb found that, while 41% of students “thought the quality was good, 31% thought it was not and 28% were neutral” (DutchNews.nl, 2020).

In South Africa, students have not articulated a similar concern with a decline in the quality of education provided online. However, it can be discerned from the range of challenges identified by students including the lack recorded lectures in some courses, with students having to rely on textbooks; uploading of slides with no explanatory

notes; tests in different courses scheduled on the same day; chasing deadlines rather than focusing on learning content; and the lack of communication and feedback from and the unavailability of lecturers who do not respond to queries and are poorly trained in the use of technology. The challenges are amplified in the case of first-year students, in particular from disadvantaged backgrounds, who have not been exposed in school to basic computer literacy and technological skills, the rules for referencing, plagiarism and the structure of assignments. The development of these skills as part of first-year orientation programmes was precluded by the lockdown (Czerniewicz et al., 2020: 956; DHET, 2020: 43-48).

The perception that quality has declined led to a call in a number of countries, such as UK, USA, Canada, South Korea, including threatened legal action in the USA, for a refund of tuition and accommodation fees. The argument for a refund is based on the view that students should not be expected to pay if they are not receiving "what they signed up for" (ITV/Meridian, 2020). This is graphically captured by a student majoring in musical performance at the University of Auckland whose "private, practical sessions with staff" was replaced by video calls that did not allow the same level of interaction:

> What I think about this is that I paid my money to the university and I should get the product that I'm looking for. This product here and now is not complete, it's not the best quality … If you go to a restaurant and you order something and you say the food is not the best and you want to return some of it, you can do that. But why can't I do this at the university? (Keogh, 2020).

The demand for a refund of fees was more muted in South Africa, with the major focus on (i) ensuring that, if the academic year was extended, additional funding support should be provided to students; and (ii) that there should be no academic exclusions in 2021 based on performance. A survey by the Human Sciences Research Council (HSRC) found that while tuition, housing and other fees were refunded by many institutions globally, the focus in South Africa was on providing relief - data, equipment and so on - to facilitate ERTL (HSRC/USAf, 2020). However, some of the better resourced universities, for example, Wits, did provide non-tuition refunds for accommodation, catering and so on (Lindique, 2020); and all South African institutions relaxed academic exclusion rules. Furthermore, in a number of countries, student loan repayments were deferred (Malaysia Mail, 2020; Neelakanthan, 2020; Scottish Government, 2020). However, although the NSFAS indicated that it had requested the Minister of Higher Education and Training to grant a loan payment holiday (Maqhina, 2020), it is not clear if the request was granted.

Finally, online teaching and learning has also raised concerns about privacy mainly in the developed world. To avoid cheating, which is apparently on the rise through Google searches, texting friends and so on, institutions have resorted to using remote proctoring software. This requires students to keep their computer cameras and microphones turned on, including showing the room in which they are writing the exam

(Asimov, 2020; Kshetri, 2020; Rossiter; Stewart, 2020). This impacts on their dignity and potentially violates their civil rights; for instance, students are not allowed to leave the room to go to the washroom which has apparently led to some students "wearing adult diapers or urinating in bottles in order to avoid having their assessments flagged or terminated" (Stewart, 2020). And, more worryingly, the artificial intelligence (AI) technology used in proctoring software such as facial recognition and eye tracking tools is discriminatory; for example, it cannot recognise dark skins which forces black students to have bright lights shining on their faces. Similarly, students with disabilities who are unable to keep their eyes on the screen all the time run the risk of being flagged for cheating. And reliability is a concern; a survey by the Dutch National Student Association (LSVb) found that "hundreds of students … have been wrongly accused of cheating after software falsely flagged them for suspicious behaviour" (NL Times, 2020). Furthermore, the collection of biometric data linked to the technology is open to hacking and data breaches. In Australia for example, the personal records of 444 000 students were hacked into, stolen and leaked on the internet (Al-Ghalib, 2020).

However, despite the challenges students have appreciated and acknowledged the efforts by institutions and academics to enable them to continue learning during the pandemic (DHET, 2020). Furthermore, the experience has not been all negative. The benefits of online teaching and learning identified by students include independence and flexibility through self-directed study on own time; revisiting lectures to enhance understanding; developing time-management and technological skills; and the opportunity to ask questions without fear of embarrassment (DHET, 2020: 49-63). However, it seems clear that the main disadvantage of the shift to online teaching and learning identified by students, namely the absence of human interaction and engagement and the adverse impact of the social and material factors on learning, far outweigh the benefits.

5. The Online Turn: Impact on Staff

It should be highlighted at the outset that there is limited information on the impact of COVID-19 and the shift to online teaching and learning on academic staff, in particular in South Africa. However, information from other parts of the world confirms that the impact on staff has been similar to that on students. This includes the lack of adequate IT equipment and connectivity at home, training and support on the use of online platforms, parental commitments and unconducive home environments, including space constraints, resulting in increased anxiety and stress levels. A survey of academic staff in New Zealand indicated that 48% of staff experienced a moderate increase in stress while 26% were "very stressed" (Gilbertson, 2020). As one staff member commented:

> (I'm) feeling like I don't know what I am doing, feeling like I am doing a poor job. Feeling isolated … Most of the IT technology does not work properly from home. No adequate

> computer equipment, or Internet. Very little real support for Internet Technology issues." (Gilbertson, 2020).

Similarly, a survey of academics, the majority of whom were women, in Portugal found that about 50% suffered from fatigue and exhaustion, 37% suffered from "burnout" (both physical and psychological exhaustion), 25% reported symptoms of anxiety and/or depression and 60% reported difficulties in falling asleep or sleeping without interruption (LUSA, 2020). The impact on female academics who bear the burden of household and child-related chores is illustrated by the experience of a female academic in South Africa:

> [She] can only pay her full attention to her work at night as she had to home school her little children and take care of other home related tasks during the day (Czerniewicz et al., 2020: 958).

Furthermore, and significantly, even academics who were exposed to online teaching and learning prior to the pandemic found it difficult to adapt to ERTL. This is indicated by the experience of academics at the University of Pretoria. Although the university had transitioned to blended learning in 2014 and about 96% of courses had an online presence, a survey of academics three weeks after the move to ERTL indicated that "47.7% of lecturers found it 'easy' to adapt to remote teaching, while 43% found it 'difficult' and 7% found it 'very difficult'. Also,16.4% of lecturers surveyed indicated that it was very difficult to maintain the same standards of teaching and learning as with face-to-face/hybrid learning" (Dugmore, 2020).

These findings, in particular, the impact on female academics are confirmed by a survey of academics undertaken in the USA by the Chronicle on Higher Education, which found that:

- 69% of academics in 2020 were "very" or "extremely" stressed as against 32% in 2019. However, 75% of female academics were stressed (34% in 2019), as against 59% of male academics.
- 68% felt fatigued in 2020 as against 32% in 2019.
- 50% reported that their enjoyment of teaching decreased, for 43% it remained the same and only 7% reported increased enjoyment.
- 69% indicated that they had considered either changing careers and leaving higher education, changing jobs within higher education or retiring.
- 82% of female academics reported an increased workload and 74% a deterioration of work-life balance in 2020, as against 70% and 63% for male academics (Chronicle on Higher Education, 2020; Nietzyl, 2020).

The gender imbalance is not surprising as women in general, pandemic or no pandemic, bear the burden of child and family-care which has been exacerbated as day-care centres and schools closed down. And there is added pressure on female academics as students experiencing emotional and mental-health issues are more

likely to seek support from female academics (Tugend, 2020: 15). However, what is surprising is the large number (43%) of tenure-track academics in the USA who indicated they were considering changing careers and leaving higher education. This is largely because of the difficulties in undertaking research, in particular, on topics that require fieldwork, which adversely impacts on research productivity and publications that are key to fulfilling tenure-track requirements. Although this has been addressed by some institutions through extending tenure-track requirements, it creates further challenges in terms of delays in progression in job levels and associated salary increases (Chronicle on Higher Education, 2020: 17). Furthermore, the pandemic has exacerbated gender disparities in research productivity. As Joya Misra, a public policy specialist, points out:

> My research shows that women tend to take time out of their own hides, for example, putting as much time into their mentoring, service, teaching, but less into their research when they are pressed, such as when they have small kids, while men protect that research time (quoted in Chronicle on Higher Education, 2020: 16).

This is confirmed by a study which shows that, during the pandemic, women were submitting fewer manuscripts than men to scholarly journals but were accepting more invitations to undertake peer reviews of manuscripts than men (Tugend, 2020: 16).

The pandemic has also impacted on job security for contract and part-time staff in developed countries, in particular Australia, the UK and the USA, who have been laid off because of budget shortfalls largely due to a decline in international student enrolments. In the UK, hundreds of academic staff on fixed-term contracts have either been made redundant or will be when their contracts end (Batty, 2020) while, in the USA, a number of universities introduced furloughs (unpaid leave) ranging from a few days to a few months for both academic and non-academic staff (Nietzel, 2020). Similarly, in Australia some 17 000 academic staff lost their jobs in 2020 (Cross, 2021), while in New Zealand, aside from 700 permanent posts, hundreds and possible thousands of fixed-term contract and tutor posts were under threat. The tutor posts mainly affect postgraduate students who rely on income from tutoring to fund their studies (Gerritsen, 2021). It would be safe to assume that budget shortfalls, albeit for different reasons, are likely to have a similar impact in developing countries.

The challenge faced by academics is brought home by the experience of two academics, one American and one South African:

> The increased workload and anxiety is something I don't think non-teachers can quite grasp - for me, at least, to teach effectively and thoughtfully requires about twice the time, and there's a constant sense you're never doing enough. What so many teaching faculty are feeling is far beyond stress - it's exhaustion, radical self-doubt, and wondering how much longer we can sustain it (Tugend, 2020: 12).
>
> Online detox is what I need now. The intoxication is manifested through physical and psychological exhaustion. Why? Unfamiliarity with the new environment (the mysterious blackboard!), lack of experience, pedagogical inadequacy, how to reach

> out to the most vulnerable (reliance on laptops, connectivity problems, load-shedding, water-shedding, etc.) – just too much to cope with.[7]

This suggests that underpinning the anxiety, exhaustion and frustration felt by academics is the loss of control. This speaks to issues of academic identity and autonomy linked to disciplinary knowledge and expertise. In face-to-face education, the individual academic is in control of the teaching and learning process which involves, amongst other activities, developing the curriculum; determining the content of lectures; the sequencing and pace of delivery; and the form and type of assessments to be completed by students. However, with the shift to ERTL, the control of the teaching and learning process is in part ceded to non-disciplinary professionals such as teaching and learning specialists, instructional designers, staff developers and learning management systems and IT specialists. It results, as Liz Lange (2021) argues, in the professing role of the academic in the lecture theatre and seminar room based on the mastery of (disciplinary) knowledge playing second fiddle to the "mastery of technology". The latter requires new and different ways of organising the content and delivery of lectures such as recording lectures in small bite-sized chunks instead of one 50-minute lecture. It also takes away the ability of the academic to assess the effectiveness of his/her performance in the transmission of knowledge: that is, "who is understanding; who is not listening; who is bored". In the words of an academic at the Durban University of Technology (DUT):

> At times when I lecture, it means engaging students with different personalities: some quiet, others loud, inquisitive questioning. I miss that because chatting on WhatsApp is not the same. The emotions and excitement (or the sadness and frustration for that matter) is not felt, at least not in the same way. I will say, though, that some students who were previously quiet in person were inquiring on the socials, and this was probably a lesson for me that blended learning is truly beneficial for some calling further for its use in Teaching & Learning (Mchunu, 2021).

However, despite the challenges and the overnight change in working conditions and expectations, academics rose to the occasion and did all that was asked of them and more to save the academic year and to ensure that no student was left behind. Academics, as with students, have appreciated the effort and commitment of institutional management to "make this work for everyone" (Czerniewicz et al., 2020: 951). And, in "making the invisible visible", the pandemic confronted academics and sensitised them to the reality of the lives and living conditions of their students and the barriers that preclude students from fulfilling their full potential as human beings. However, going forward the issue of academic identity and agency is a potential source of tension in the context of the debate of the role of online teaching and learning beyond the pandemic. It is likely to pit those who embrace technology and online teaching and learning against those who are opposed to it on educational and epistemological grounds and raises questions both of academic identity and the rights

[7] Comment by a colleague at the University of Johannesburg on reading the first draft of this report.

of students in terms of “equal access and freedom of choice” (Czerniewicz, et.al, 2020: 957).

6. COVID-19: Impact and Implications for the Academic Project

The focus on the shift to online teaching and learning should not detract from the impact of the pandemic on the broader academic project of which online teaching and learning is but one component. This includes issues about the role of the university in society and in particular the role of science and scientific research; the relevance of the curriculum; inter- and intra-institutional collaboration in teaching and research, including open science and publications; funding; and public and private interest.

6.1 The Role of the University

The pandemic has highlighted the role of the university in contributing to addressing societal challenges through research and the generation of new knowledge and by providing scientific advice and expertise to enable governments to make informed choices in determining public policies. This is illustrated by the fact that two-thirds of institutions surveyed by the International Association of Universities (IAU) indicated that their senior management and faculty had been consulted by their respective governments regarding COVID-19 related issues and challenges. In Africa, however, the take up was lower - 50% compared to 68% in the Americas, 69% in Europe and 71% in Asia and the Pacific (Marinoni et al., 2020: 19). This has not been the case in South Africa, where the Minister of Health established a Ministerial Advisory Committee (MAC) consisting of about 50 leading health and science researchers in the country - “doctors, clinicians, public health academics, pathologists and other health care professionals” - to advise the government on the pandemic (Sayed & Singh, 2020: 24). Furthermore, as well as research and knowledge generation universities have also contributed to addressing the pandemic through a range of other initiatives such as the development and production of sanitisers and ventilators, the use of residences for quarantine purposes and converting facilities for use as hospital wards (Salmi, 2020: 34-35).

The recognition of the role of universities and science is to be welcomed given the populist view of universities as “ivory towers” oblivious to the challenges of the “real world” which has intensified in recent times with “expert bashing” beloved of authoritarian and right-wing governments. However, without detracting from its significance, there are dangers in the reification of science. First, it blurs the distinction between research and the impact of research on policy choices. The distinction is important as the end goals of public policy, as Sayed and Singh (2020) point out, are different from the end goals of science. Policy is driven by political choices while science, as Gibbs (2020) argues, is based on “reified guesses” especially in times of crisis when the evidence from scientific research is at best “contested, partial and incomplete” (Sayed & Singh, 2020). This is illustrated by the fact that the choices open to governments in response to the pandemic were essentially two-fold, based on

different end goals: (i) economic growth and livelihoods, which would require keeping the wheels of commerce turning or (ii) health and saving lives, which would require shutting down the economy. Achieving a balance between the end goals is the stuff of politics and not of science. As Yuval Noah Hariri argues:

> Science cannot replace politics. When we come to decide on policy, we have to take into account many interests and values, and since there is no scientific way of determining which interest and values are more important, there is no scientific way to decide what we should do (Hariri, 2021).

Second, it ignores the social, economic and cultural dimensions of the pandemic. The implications for the economy notwithstanding, the measures introduced to deal with COVID-19 in South Africa and other developing countries did not take into account the social and spatial context and living conditions of poor and working class communities in overcrowded townships and squatter camps where social distancing is well-nigh impossible let alone washing hands regularly in the absence of piped water. The fact that the social, economic and cultural context was ignored is reflected in the composition of the MAC which, as indicated above, included scientists, public health specialists and clinicians but no scholars from the humanities and social sciences.

In this context, privileging science is more often than not used by politicians to justify decisions or a “particular course of action”, which may explain some of the more bizarre decisions made by the South African government such as what constituted essential clothing that could be sold in retail outlets and the heavy-handed response of the police and army to breaches of the lockdown regulations in the townships.

Third, the enhanced role of science and technology in the fight against COVID-19, which has facilitated the rapid development of vaccines, has resulted in a redirection of research funding to the broad field of science, engineering and technology to the detriment of the humanities and social sciences. This is illustrated by the fact that the Department of Higher Education Science and Innovation has allocated just under R69m for COVID-19 research and development through the reprioritisation of the 2019/20 and 2020/21 budget allocation (Shoba, 2021). In addition, the National Research Foundation (NRF) has allocated close to R80m for COVID-19 related research and science engagement activities across 17 African countries through the COVID-19 Africa Rapid Grant Fund which was launched in May 2020 with the support of a range of international funding agencies (NRF, 2020). The need in the short-term to redirect research resources to COVID-19 projects is not in question. However, the fact that COVID-19 is being defined narrowly to focus on the health and science aspects of the pandemic raises concerns that this may be a precursor to a long-term shift to the detriment of the humanities and social sciences.

6.2 Curriculum Relevance

In the context of the pandemic, the relevance of the curriculum in higher education has been raised in two contexts. First, according to a survey undertaken by Pearson

students are increasingly focusing on pursuing shorter and vocational courses. The latter - in particular, courses such as coding bootcamps - are cheaper and, given their links with industry offer a quicker and customised entry point into the labour market (ICEF Monitor, 2019; Razavi, 2020). Second, that universities are not well-placed to develop and respond to rapidly changing knowledge and skills needs. According to Smit and Serfontein (2020) although no supporting evidence is provided, about 50% of the knowledge acquired by first-year undergraduates in a four-year technical degree will be outdated by the time they graduate. Furthermore, they argue that courses/modules that are not relevant to the needs of the labour market and/or are loss-making should not be offered.

The underlying assumption is that degree programmes offered by universities do not provide the skills required to prepare students for the labour market. This is an old argument used by employers who expect graduates to be job-ready, which is being rehashed in the context of 4IR and associated technological skills. In response to this apparent shortcoming, Google is in the process of introducing “Google Career Certificates” - six-month courses that will “provide students with qualifications that will lead directly into high-paying, high-growth jobs without having to attend university” (Griffiths, 2020). Google will regard these courses as the equivalent of a four-year degree.

This narrow technicist and skills-based view of higher education would denude it of its social and cultural purposes and its core values of equity, quality, democracy, development, accountability and academic freedom. It will produce, as Sizwe Mabizela argues, “robots … highly educated people with severely underdeveloped human skills” (USAF/HSRC, 2020).

An alternative to technological determinism suggested by Gorur (2020), is to reimagine the curriculum and to refocus disciplines in terms of their impact on societal development through transcending the current divide between the sciences and the humanities which is critical to addressing the global grand challenges such as climate change and health epidemics. Thus, although pandemics are both biological and social phenomena, neither science nor humanities students are taught to reflect on the social implications of science. If anything, humanities students tend to be wary of technology (Gorur, 2020). In this regard, given the rapid advances in technology, “if robots and machines are not to rule over humans, it is important that students understand the social implications of technology” (Essop, 2019: 2). This requires an inter-disciplinary approach to the curriculum which combines depth in terms of the disciplinary major with breadth in terms of non-disciplinary modules across the traditional disciplinary divide, thus providing students with a broad knowledge base and the requisite analytical and communication skills (University of Melbourne, 2006: 11).

The development of inter-disciplinary curriculum frameworks, including non-credit bearing modules to develop personal and professional skills “relating to careers and

employability, equality and diversity and health, safety and wellbeing" offered as online or blended options, has been gaining momentum in higher education institutions in developed countries, in particular, in Australia, the UK and the USA, in response to the global grand challenges (Essop, 2019). However, these trends have not gained traction in developing countries in general and in South Africa in particular. The pandemic, which, as indicated above, has also highlighted poor teaching and learning practices in face-to-face education particularly in relation to students from diverse socio-economic and educational backgrounds - provides an opportunity to rethink and reimagine the curriculum in higher education. In South Africa, aside from inter-disciplinarity it requires rethinking the appropriateness of the structure of the undergraduate curriculum for addressing the under-preparedness of students for higher education given the "articulation gap" in knowledge and skills between the outcomes of schooling and the requirements of higher education (CHE, 2013). This disproportionately affects poor and working class students. It also provides the opportunity to consider the decolonisation of the curriculum which was brought into sharp relief by the #Rhodes Must Fall student protests in 2015/'16 but which seems to have fallen of the agenda since then.

6.3 Collaboration

The pandemic has highlighted the need to revisit and rethink the traditional competitive approach to research and teaching. In research, including research funding, the privileging of publications in "prestigious scientific journals over research impact and social relevance" discourages research collaboration and is a barrier to open science and open access to publications, knowledge and data (Salmi, 2020: 57; Gaebel, 2020: 12; Mathews, 2020: 23). The significance of the latter is demonstrated by the fact that, in the absence of collaboration, open science and open access, including sharing research data online before peer-review and publication, the rapid identification of the genomic sequence of the COVID-19 virus and its subsequent mutations would not have been possible. In addition, as Salmi argues, the social impact of the global grand challenges cannot be addressed without a multi-disciplinary and multi-institutional approach and model (Salmi, 2020: 57). This is required both at a global and national levels.

The efficacy and impact of collaboration in research has been demonstrated in South Africa where researchers from across different higher education institutions and science councils have collaborated in COVID-19 research, including in the roll-out of vaccine trials. This confirms the views of vice-chancellors interviewed for a study on the Size and Shape of the Higher Education System in South Africa that inter-institutional collaboration "is critical to address societal grand challenges given the lack of a critical mass of academics and researchers in any one institution [and] it is equally important to enable the building of capacity and to support researchers and postgraduate students … through common platforms - workshops, seminars, joint research projects, co-supervision and so on" (Essop, 2020: 66). Furthermore, there

are initiatives to facilitate open science and open access on the African continent with the establishment at UCT of an open access publishing platform for Africa which would enable researchers to contribute to global knowledge production from the global south (Dhlamini, 2021).

There have also been initiatives, albeit limited, in collaborating in teaching and learning. Thus, for example, students in the USA enrolled in seven institutions that form part of the Big Ten Alliance[8] will have free access to a range of online courses offered by the participating institutions (IBL News, 2020). Similarly, Tsinghua University in China has launched the Global Hybrid Classroom which will allow students to undertake a range of online courses for credit from the participating institutions which include St. Petersburg State University in Russia, Singapore's Nanyang Technological University and the Polytechnic University of Milan in Italy. There are also plans to allow Tsinghua students to take courses offered by RWTH Aachen University in Germany, Rice University in Texas and the University of Toronto (China News, 2020). The purpose of the programme is to pool high-quality educational resources and enable cross-cultural engagement. As the vice-president and provost of Tsinghua University, Yang Bin, states:

> The possibilities of communicating with people from different countries and cultural backgrounds on campus are limited. Through creative education technology and curriculum design, we can provide our students with a more imaginative space, lead them on a broader journey and help shape a resilient educational system that faces the globalization era and the future (China News, 2020).

However, if these early initiatives in open science and open access, including collaboration in developing and delivering online courses, are to move beyond a short-term response to COVID-19, it would require governments and funding agencies to provide funding and other incentives to support inter-institutional collaboration and partnerships both within and between countries (Salmi, 2020: 59).

6.4 Funding

The financial sustainability of higher education institutions, in particular, in developing countries, which was precarious pre- COVID-19, has been dealt a severe blow by the pandemic and linked economic downturn. In South Africa, this has intensified the pressure on the main income streams of universities - state subsidies; tuition fees; third-stream income from contract research; consulting services; short courses; and philanthropic donations (de Villiers, 2020b; Koornhof, 2020). This is magnified in the case of those institutions, mainly the HDIs, which rely solely on state subsidies and tuition fees. Moreover, the state subsidy has steadily declined while access has increased. This has been compounded by the need for additional resources to deal

[8] The Big Ten schools are Indiana University Bloomington, University of Maryland, Michigan State University, University of Nebraska-Lincoln, Ohio State University, Pennsylvania State University and Rutgers University-New Brunswick.

with the pandemic, which has been provided in part by government through reprioritisation of the existing budget. However, no new money has been provided. The reprioritisation resulted in universities receiving less than half of what they had requested (Koornhof, 2020). And there is no end in sight, as the state subsidy for the 2021/22 to 2023/24 financial years has been increased by less than the inflation rate. In addition, the 2021/22 subsidy has been cut further to provide for the increase in the number of students who qualify for free higher education as a result of decreased family incomes due to the economic impact of the pandemic.

In this context, the demand for a refund of fees or for a freeze on fee increases on the grounds that the shift to online education requires fewer resources is misconstrued as it does not take into account the impact of COVID-19 on institutional costs. Higher education institutions have continued to operate and, while there may have been some savings in terms of costs relating to utilities (electricity and water), printing, travel and so on, this has been more than offset by the additional costs incurred to prepare campuses for the return of students including the shift to ERTL (Koornhof, 2020; ITV/Meridian, 2020). As Ahmed Bawa, the CEO of USAf points out:

> The cost of staffing is by far the biggest cost driver of the universities and this hasn't changed. There are also significant costs associated with the shifting of learning to online learning, including the development, licensing and maintenance of the institutional cyberinfrastructure, technology platforms, the provision of devices and data, the need for staff development programmes, etc. (quoted in Shoba, 2020).

Furthermore, it is a myth that online education is cheaper. Its main advantage from a cost point of view is that it is scalable, which reduces the unit cost per student, thus making it more affordable (Wim de Villiers, 2020b). In this sense, it is an attractive option; however, as discussed above its advantages are outweighed by its disadvantages in terms of exacerbating digital inequalities.

It has also been suggested that private higher education institutions, the primary providers of higher education in many developing countries, including in Africa, but not South Africa and which are totally dependent on tuition fees, are even more at-risk than public institutions (Altbach & de Witt, 2020: 4-5).

The threat to financial sustainability is not limited to developing countries. Similar issues face higher education institutions in developed countries. In the USA, for instance, a potential decline in enrolments due to financial pressures facing students and their families is predicted to impact on both public and private institution, in particular on the latter as they are wholly dependent on fees and/or international students. This will lead to mergers and/or closures, which are happening currently (Salmi, 2020:47; Quintana, 2020 – USA Today). The impact of the loss of international students who may not be willing to pay exorbitant fees to study online and/or may prefer to study in their home or neighbouring countries given the health risks associated with travel, including quarantine regulations, is illustrated by the fact that, in the USA, institutions expected to lose some $4.5 billion in revenue in the 2020/21

academic year. Similarly, in Australia, where higher education is one of its top three exports, Chinese students, primarily postgraduates, contribute some A$12 billion to the economy (Leash and Ziguvas, 2020). In fact, a large proportion of the research funding of the leading Australian universities is derived from revenues generated from international student fees. The loss of international students to high income countries may, as Altbach and de Witt (2020) suggest, benefit middle income countries where costs are lower. Indeed, as Conroy argues, the reversal of the flow of students from the East (South) to West (North) has the potential of resetting power relations in education as the dominance of the UK, USA and Australia is eroded in the medium-to-long-term (Conroy, 2020).

This discussion clearly indicates the vulnerability of higher education systems in both developed and developing countries unless there is a substantial injection of public funding to support higher education. In the absence of such support, there is the danger that higher education will increasingly be privatised, as discussed below.

6.5 Technology and the Privatisation of Higher Education

There is an emerging view that the pandemic provides an opportunity to disrupt the apparent broken model of campus-based, face-to-face higher education which is characterised by increasing costs, limited value for money, inefficiencies and inequalities and a curriculum that is not relevant to the rapidly changing skills needs in the context of the rise of 4IR. The most vocal proponent of this view, Scott Galloway, Professor of Marketing at New York University's Stern School of Business argues (Galloway, 2020) that university degrees are "prohibitively expensive and unnecessary" and should not be "fetishised" but replaced by short certificated vocational programmes which are a "gangster way of preparing a person of any age for a career" in "hot fields" such as computer programming and product management. In his view, the future of higher education lies with online education offered by leading institutions in partnership with big technology companies through short-term certification programmes along the lines of Google's six-month certificate discussed above:

> We need firms (like Apple) to seize the greatest business opportunity in decades and open tuition-free universities that leverage their brand and their tech expertise to create certification programs (Apple in arts, Google in computer science, and Amazon in operations). The business model is to flip the model and charge firms to recruit (shifting costs from students to firms), bypassing the cartel that is university accreditation. Apple training, certification, testing, and reporting would lead to bidding wars among their graduates - the secret sauce for any university (Galloway, 2020).

Nor is Galloway a lone voice. As Williamson and Hogan (2020: 7) point out, concerns regarding the financial sustainability of higher education in the context of budgetary constraints, including a narrow instrumentalist notion of skills, has resulted in a range of stakeholders focusing on technological solutions which are perceived as "effective,

scalable, efficient" to address the "long-term operational strategies, budgetary constraints and community responsibilities" of higher education institutions.

The technological reimagining of higher education is based on "programmed pedagogical environments" in which the teacher is replaced by AI which facilitates individual "personalised learning" through monitoring students' learning needs. As the Senior Futurist of the DaVinci Institute states:

> In practice, hyper-individualising education translates into a human-to-AI interface that monitors the student and learns about them until it knows what the student is proficient in and what they still need to learn. Based on this, the AI teacher bot will determine what the student needs to learn. It feeds the student information in a bite-size format based on what it knows about the most optimal times and ways to learn different kinds of information to each individual, personally (quoted in Williamson and Hogan, 2020: 22).

Importantly, as Fataar argues, this ignores disciplinary knowledge and the role of the curriculum in providing "students access to the conceptual knowledge upon which the acquisition of knowledge and skills depends" (Fataar, 2020:20).

In this technological imaginary of higher education, the focus of higher education is not on degrees but job skills provided through digital learning platforms. At the centre of the latter are Learning Management Systems (LMS), which have increasingly shifted from providing the digital infrastructure for hosting courses, storing course materials and student records to providing the scaffolding for AI-driven pedagogical environments (Williamson & Hogan, 2020: 26, 31-32). The techno-solution to the challenges of higher education is being driven by the education technology (edtech) industry centred around key market leaders such as Coursera, Blackboard and Canvas which have also been providing free services in response to the pandemic. Coursera, for example, offered universities "bulk licenses at no cost, enabling students to enrol on courses to earn credits towards their degree" (Williamson & Hogan, 2020: 33). This had nothing to do with altruism and everything to do with capturing the market for future commercial opportunities; for example, in 2019 the LMS market was worth an estimated $9 billion and was projected to grow to $30 billion in 2025, excluding the potential revenue to be generated from mining large student datasets for commercial purposes (Williamson & Hogan, 2020: 26). It is no wonder, then, that in the first three-quarters of 2020 $8.3 billion in venture capital was invested in the edtech industry (Williamson & Hogan, 2020: 27). In addition to the LMS market, institutions are also increasingly turning to third-party providers - Academic Partners, Noodle Partnerships, Pearson to name a few - which offer Online Programme Management (OPM) services to deliver their online courses (Williamson & Hogan, 2020: 36-37).

This technological turn raises a range of issues that impact both on the purpose of higher education and on students and staff. First, as indicated above, it intrudes on the privacy of students through online surveillance of tests and examinations. Second, the personal data that is obtained can be used for commercial purposes. Third, it

results in a loss of academic freedom, in particular, when online courses that have been developed by academics are outsourced for delivery to third-parties through OPMs. In this regard, questions have been raised about the ownership and intellectual property of recorded lectures:

> Another issue is the link between intellectual property (IP) rights over digital teaching content and academic freedom. In the traditional teaching environment it is customary for academics to hold ownership over what they produce, as control over content is essential for the exercise of academic freedom, but in the digital environment – where teaching materials are uploaded to LMS platforms, lectures delivered over videoconferencing and captured by recording software – content ownership and IP are less clear (Williamson and Hogan, 2020: 60).

In the USA, for instance, some institutions have indicated that the copyright of lectures uploaded using institutional platforms such as Blackboard belong to the institution (Vincent, 2020). This raises concerns as it could be used against academics, for example, involved in strike action against management, which would undermine the power of collective action. In fact, in the UK during strike action by the University and College Union (UCU) against budget cuts in 2018, some universities did threaten to use recorded lectures to break the strike (Vincent, 2020). Fourth, the focus on AI to mediate teaching and to monitor student performance ignores the discriminatory nature of AI. This was highlighted, for example, by the use of algorithms to determine A level grades in the UK in 2020, resulting in students from poor and working class backgrounds obtaining lower grades than students from wealthy backgrounds. It has been suggested that this is because AI platforms determine "patterns and correlations" regarding human activity by scanning vast quantities of historical data that is devoid of human judgement and of values such as social justice, non-racism and non-sexism that should inform the building of a better society in the future (Tett, 2021).

The concerns raised should not be interpreted to suggest that there is no role for technology, including AI, in teaching and learning in higher education. However, it is to recognise that technology is not neutral and to caution of the dangers of introducing technological solutions and platforms without critically reflecting on how and whether technology can contribute to enhancing teaching and learning in the context of social justice. In this regard, in the context of the pandemic and previously of the student protests in South Africa, institutions have not had the luxury to assess whether and which technologies to use as decisions have had to be made on the run. This has enabled edtech companies to "insert themselves in spaces previously not available" and to make "seductive promises" to institutions. There is no running away from the use of technology in higher education but, as Czerniewicz argues, in their relationship with edtech it is imperative that institutions "maintain academic control" (Czerniewicz, 2020). It is equally important to recognise that the techno-solution, with its focus on employability, serves the narrow private interests of the global technology industry and erodes the purpose of higher education which, as Ashwin argues, "is to bring students into a transformational relationship to professional and/or disciplinary knowledge that

changes their sense of who they are, how they understand the world, and what they can do to change it" (quoted in Williamson and Hogan, 2020: 65). In short, its role is to develop to the full the human potential of every student, thus enabling him/her to contribute as a citizen to the social, economic, political and cultural life of society.

7. Conclusion

As this report indicates, the shift to online teaching and learning in response to the pandemic has brought into sharp relief the fault lines that cut across higher education systems in both developed and developing countries. The fault lines are material, in terms of access to online infrastructure and resources, and educational in terms of pedagogical practices that are not responsive to the learning needs of students from diverse social, economic, cultural and educational backgrounds. In this sense, the pandemic has not prefigured a "new normal" in higher education but has made "visible the invisible", that is, the inequalities that defined the normal. This is not to suggest that online teaching and learning - the much vaunted "new normal" - does not have a role to play in the future of higher education. On the contrary, online education and associated technological innovations can contribute to enhancing teaching and learning. However, this can best be done through online teaching and learning playing a complementary role to face-to-face teaching and learning. In South Africa, notwithstanding the need to restructure the undergraduate curriculum discussed above this could be done, for example, through providing additional support to students to address the "articulation gap" between schooling and higher education, including providing non-credit bearing stand-alone courses to facilitate personal and professional development and skills. As this report indicates, for students and staff, education is a social process in which human interaction and engagement are at the centre of teaching and learning. It is a salutary reminder that we need to guard against the creep of technological determinism and the "new normal" which, as Badat argues, is a "euphemism for untrammelled technocratic restructuring" and which, if left unchecked, would lead to universities subjected to "intensified corporatisation, managerialism, commercialisation and commodification of knowledge" (Badat, 2020:34). In short, it would result in the privatisation and the erosion of the social purpose of higher education. COVID-19 is indeed a portal moment and provides an opportunity to rethink and reimagine the role and purpose of higher education post-pandemic based on a commitment to social justice, equity and people-centred development.

Abbreviations and acronyms

4IR	Fourth Industrial Revolution
AI	Artificial intelligence
CEO	Chief Executive Officer
COVID-19	Coronavirus disease 2019
DHET	Department of Higher Education and Training

DUT	Durban University of Technology
ERTL	emergency remote teaching and learning
GB	Gigabyte
HAI	Historically advantaged institution
HDI	Historically disadvantaged institution
HSRC	Human Sciences Research Council
IT	Information technology
LMS	Learning management system
MAC	Ministerial Advisory Committee
MOOC	Massive Open Online Course
NRF	National Research Foundation
NSFAS	National Student Financial Aid Scheme
OPM	Online Programme Management
UCT	University of Cape Town
UK	United Kingdom
USA	United States of America
USAf	Universities South Africa
Wits	University of the Witwatersrand

References

Al Deen Al Nawas, B. (2020) 'Higher Education Council reviews distance learning experience', *The Jordan Times*, 16 August. http://jordantimes.com/news/local/higher-education-council-reviews-distance-learning-experience

Al-Ghalib, E. (2020) 'Australian universities investigating 'deeply concerning' hack of controversial exam software, *SBS News*, 7 August. https://www.sbs.com.au/news/australian-universities-investigating-deeply-concerning-hack-of-controversial-exam-software

Altbach, PG & De Witt, H. (2020) 'Postpandemic Outlook for Higher Education is Bleakest for the Poorest', *International Higher Education*, Special Issue No. 102, pp. 3-5.

Asimov, N. (2020) 'Online cheating surges during the pandemic; universities struggle to find a solution', *San Francisco Chronicle*, 3 November. Previously available at https://www.sfchronicle.com/education/article/Online-cheating-surges-during-the-pandemic-15696066

Badat, S. (2020) 'Reproduction, transformation and public South African higher education during and beyond Covid-19', *Transformation*, 104, pp. 24-42.

Batty, D. (2020) 'Hundreds of university staff to be made redundant due to coronavirus', *The Guardian*, 2 April. https://www.theguardian.com/education/2020/apr/02/hundreds-of-university-staff-made-redundant-due-to-coronavirus

Bhengu, L. (2020) 'Dark divide: the very different experiences of students trying e-learn', *Sunday Times*, 25 May. https://select.timeslive.co.za/news/2020-05-25-dark-divide-the-very-different-experiences-of-students-trying-to-e-learn/

Bourchachene, M. (2020) 'Moroccan University Students: Remote Exam Prep Difficult, But Doable', *Morocco World News*, 29 August.https://www.moroccoworldnews.com/2020/08/316790/moroccan-university-students-remote-exam-prep-difficult-but-doable

Burbules, NC. (2020) 'Lessons from the coronavirus: What we are learning about online learning', in Peters, M. et al. (2020) Educational Philosophy and Theory Reimagining the new pedagogical possibilities for universities post-Covid-19. An EPAT Collective Project. *Educational Philosophy and Theory*. (10.080/00131857.2020.1777655) https://www.researchgate.net/publication/348555930

China News (2021) 'Tsinghua joins global universities offering online courses', *China Daily*, 13 March. http://www.ecns.cn/news/society/2021-03-13/detail-ihainwmv2680124.shtml

Chronicle on Higher Education (2020) '"On the Verge of Burnout": Covid-19s impact on faculty well-being and career plans', *The Chronicle of Higher Education*. https://connect.chronicle.com/rs/931-EKA-

218/images/Covid%26FacultyCareerPaths_Fidelity_ResearchBrief_v3%20%281%29.pdf

Chrysanthos, N. (2020) 'Australian universities start wiping fail grades as students plea for amnesty', *The Sydney Morning Herald*, 1 April. https://www.smh.com.au/national/australian-universities-start-wiping-fail-grades-as-students-plea-for-amnesty-20200331-p54fmf.html

Concerned Academics (2020) Public Universities with a Public Conscience: A Proposed Plan for a Social Pedagogy Alternative in the Time of Pandemic. https://bit.ly/public-universities-plan

Conroy, J. (2020) 'Higher education after the virus', in Peters, M. et al. (2020) Educational Philosophy and Theory Reimagining the new pedagogical possibilities for universities post-Covid-19. An EPAT Collective Project. *Educational Philosophy and Theory*. (10.080/00131857.2020.1777655) https://www.researchgate.net/publication/348555930

Council on Higher Education (2013) A proposal for undergraduate curriculum reform in South Africa: The case for a flexible curriculum structure, Report of the Task Team on Undergraduate Curriculum Structure, *Council on Higher Education.* Pretoria.

Cross, E. (2021) 'Australian universities face multi-year hit to revenue', *Canberra Weekly*, 4 February. https://canberraweekly.com.au/australian-universities-face-multi-year-hit-to-revenue/

Czerniewicz, L., Trotter, H. & Haupt, G. (2019) 'Online teaching in response to student protests and campus shutdowns: academics' perspectives', *International Journal of Educational Technology in Higher Education* 16, 43. https://doi.org/10.1186/s41239-019-0170-1

Czerniewicz et al. (2020) 'A Wake-Up call: Equity, Inequality and Covid-19 Emergency Remote Teaching and Learning', *Postdigital Science and Education* 2: 946-967, 23 September. https://www.researchgate.net/publication/345312864_A_Wake-Up_Call_Equity_Inequality_and_Covid-19_Emergency_Remote_Teaching_and_Learning

Czerniwicz, L. (2020) 'What we learnt from "going online" during university shutdowns in South Africa', *Phil on EdTech*, 15 March. https://philonedtech.com/what-we-learnt-from-going-online-during-university-shutdowns-in-south-africa/

Dennan, V. (2020) 'What to expect as colleges and universities move classes online amid coronavirus fears: 4 questions answered' *The Conversation*, 11 March. https://theconversation.com/what-to-expect-as-colleges-and-universities-move-classes-online-amid-coronavirus-fears-4-questions-answered-133334

Department of Higher Education and Training (2020) Students' Access To and Use of Learning Materials, Survey Report 2020. DHET: Pretoria.

De Villiers, W. (2020a) 'Online learning here to stay', *Die Burger and Beeld*, 29 April.

De Villiers. W. (2020b) 'Quo vadis SA universities in a post-Covid-19 future?', *Daily Maverick*, 26 August. https://www.dailymaverick.co.za/article/2020-08-26-quo-vadis-sa-universities-in-a-post-covid-19-future/

Dhlamini, S. (2020) 'UCT launches open-access, African-centric research platform, *Engineering News*, 12 January. Creamer's Media. https://www.engineeringnews.co.za/searchadvanced_en.php?is_id=81&sortOrder=DESC&st=i&searchAll=on&searchStartDate=&searchEndDate=&searchSortBy=sr_date&searchString=open+access+publishing

Dugmore, H. (2020) 'UP shows strong adaptability to online teaching and learning – survey', *University of Pretoria News*, 7 July. https://www.up.ac.za/news/post_2906988-up-shows-strong-adaptability-to-online-teaching-and-learning-survey#nogo

Duncan-Williams, K., Angelucci, C., Tshoto, V & Moloi, Z. (2020) 'No data or support: the reality of learning through lockdown in South Africa's post-school institutions', *The Daily Vox*, 7 September. https://www.thedailyvox.co.za/no-data-or-support/

DutchNews.nl. (2020) 'Universities plan to continue teaching online until February 2021',*DutchNews.nl*, 11May. https://www.dutchnews.nl/news/2020/05/universities-plan-to-carry-on-teaching-online-until-february-2021/

Essop, A. (2019) Curriculum Trends in Higher Education Internationally; unpublished report, University of Johannesburg.

Essop, A. (2020) The Changing Size and Shape of Higher Education in South Africa, 2005-2017, Ali Mazrui Centre Studies for Higher Education, University of Johannesburg. https://www.uj.ac.za/faculties/facultyofeducation/ali-mazrui-centre/Documents/AMHE-Size%20and%20Shape%20of%20the%20HE%20System%202005-2017.pdf

Fattar, A. (2020) 'The *emergence* of an education policy dispositif in South Africa: An analysis of educational discourses associated with the fourth industrial revolution', *Journal of Education,* Issue 80. http://dx.doi.org/10.17159/2520-9868/i80a01

Friedman, B. (2020) 'UCT VC: Staff urged to be compassionate without compromising teaching quality', *CapeTalk*, 12 October. https://www.capetalk.co.za/articles/398378/uct-vc-staff-urged-to-be-compassionate-without-compromising-teaching-quality

Gaebel, M. (2020) 'A Sudden Shift to Emergency Remote Learning and Teaching', *Regional/National Perspectives on the Impact of Covid-19 on Higher Education*, International Association of Universities. Paris.

Galloway, S. (2020) 'Higher education needs an overhaul. Here are 9 changes that need to happen to make college worth it again', *Insider*, 2 December. https://www.businessinsider.com/scott-galloway-how-to-make-higher-education-more-accessible-2020-12?IR=T

Gerritsen, J. (2021) 'University postgraduate students warn tutoring, casual roles being cut', RNZ, 9 March. https://www.rnz.co.nz/news/national/437955/university-postgraduate-students-warn-tutoring-casual-roles-being-cut

Gibbs, P. (2020) 'Transdisciplinary possibilities after the pandemic', in Peters, M. et al. (2020) Educational Philosophy and Theory Reimagining the new pedagogical possibilities for universities post-Covid-19. An EPAT Collective Project. *Educational Philosophy and Theory*. (10.080/00131857.2020.1777655) https://www.researchgate.net/publication/348555930

Gilbertson, G.M. (2020) 'Stress levels among tertiary teaching staff increase since Covid-19', *Stuff*, 12 May. https://www.stuff.co.nz/national/education/121490769/stress-levels-among-tertiary-teaching-staff-increase-since-covid19

Gorur, R. (2020) 'Course correction: disciplines in the post-COVID world', in Peters, M. et al. (2020) Educational Philosophy and Theory Reimagining the new pedagogical possibilities for universities post-Covid-19. An EPAT Collective Project. *Educational Philosophy and Theory*. (10.080/00131857.2020.1777655) https://www.researchgate.net/publication/348555930

Gross, A. (2021) 'History shows pandemics rarely end neatly or with complete eradication', *FT Weekend*, 13-14 March.

Hansen, J. D. & Reich, J. (2015) 'Democratizing Education? Examining Access and Usage Patterns in Massive Open Online Courses,' *Science*, vol. 350, no. 6265, pp. 1245-1248. http://nrs.harvard.edu/urn-3:HUL.InstRepos:23928053

Hariri, Y.N. (2021) 'The Covid year' *FT Weekend*, 27/28 February.

Hodges, C., Moore, S., Lockee, B., Trust, T. & Bond, A. (2020) 'The Difference Between Emergency Remote Teaching and Online Learning', *Educause Review*, 27 March. https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

IBL News. (2020) 'Seven Large Universities Will Share Their Online Courses Among Undergraduate Students', *IBL News*, 6 August. https://iblnews.org/seven-large-universities-will-share-their-online-courses-among-undergraduate-students/

ICEF Monitor (2019) Global survey reveals growing interest in shorter programmes and lifelong learning, *ICEF Monitor*, 22 October. https://monitor.icef.com/2019/10/global-survey-reveals-growing-interest-in-shorter-programmes-and-lifelong-learning/

ITV/Meridian (2020) 'Students and universities facing the challenges of lockdown as question over fees grow', *ITV/Meridian*, 7 May. https://www.itv.com/news/meridian/2020-05-07/students-and-universities-facing-the-challenges-of-lockdown-as-question-over-fees-grow

Jackson, L. (2020) 'Reforming online education', in Peters, M. et al. (2020) Educational Philosophy and Theory Reimagining the new pedagogical possibilities

for universities post-Covid-19. An EPAT Collective Project. *Educational Philosophy and Theory*. (10.080/00131857.2020.1777655) https://www.researchgate.net/publication/348555930

Kellaway, L. (2021) 'Education's big test', *FT Weekend*, 6-7 March.

Keogh, B. (2020) 'Coronavirus: Students want refunds after universities move learning online', *Stuff*, 5 April. https://www.stuff.co.nz/national/education/121031270/coronavirus-students-want-refunds-after-universities-move-learning-online

Koornhof, C. (2020) 'Covid-19: The impact on universities and how their business models need to be flexible', *News24*, 9 September. https://www.news24.com/news24/columnists/guestcolumn/opinion-covid-19-the-impact-on-universities-and-how-their-business-models-need-to-flexible-20201009

Kshetri, N. (2020) 'Remote education is rife with threats to student privacy' *The Conversation*, 6 November. https://theconversation.com/remote-education-is-rife-with-threats-to-student-privacy-148955

Lange, L. (2021) 'Initial reflections on emergency remote learning and academic identity', *Mail & Guardian*, 16-22 April.

Lappeman, J. (2021) 'The hidden cost of remote university leaning during Covid-19', *News24*, 20 February. https://www.news24.com/news24/analysis/analysis-the-hidden-cost-of-remote-university-learning-during-covid-19-20210219

Leask, B. & Ziguras, C. (2020) 'The Impact of COVID-19 on Australian Higher Education', *International Higher Education*, Special Issue No. 102, pp. 36-37.

Leingang, R. (2020) 'College students want to change how they're graded as coronavirus pandemic disrupts everything', *USA Today*, 2 April. https://www.usatoday.com/story/news/education/2020/04/02/coronavirus-grades-colleges-pass-fail-grading/5094388002/

Linden, A. (2020) 'Distribution of laptops and modems for UFH students', *University of Fort Hare News*, 21 August. https://www.ufh.ac.za/news/News/DistributionLaptopsandModemsUFHstudents

Lindique, M. (2020) 'Wits University refunds students for some services not used in 2020', *Eyewitness News*, 17 December. https://ewn.co.za/2020/12/17/wits-university-refunds-students-for-some-services-not-used-in-2020

LUSA (2020) 'Portugal: Half of higher education teachers suffer fatigue, exhaustion in the pandemic – study', *Macau Business*, 27 October. https://www.macaubusiness.com/portugal-half-of-higher-education-teachers-suffer-fatigue-exhaustion-in-the-pandemic-study/

Maddox, D. (2020) 'UK universities face backlash from students forced to pay tuition fees despite pandemic', *Daily Express*, 24 May. https://www.express.co.uk/news/uk/1286524/UK-universities-tuition-coronavirus-lockdown-weather-mcvey-blue-collar-conservative

Maqhina, M. (2020) 'NSFAS students waiting on Blade Nzimande for a payment holiday', *IOL*, 21 May. https://www.iol.co.za/news/politics/nsfas-students-waiting-for-blade-nzimande-on-payment-holiday-48296365

Malaysia Mail (2020) 'Higher Education minister: PTPTN loan repayment deferred until December', Malaysia Mail, 4 August. https://www.malaymail.com/news/malaysia/2020/08/04/higher-education-minister-ptptn-loan-repayment-deferred-until-december/1890996

Marinoni, G. & Van'd Lant, H. (2020) 'The Impact of COVID-19 on Global Higher Education', *International Higher Education*, Special Issue No. 102, pp. 7-9.

Marinoni, G., Van'd Lant, H. & Jensen, T. (2020) 'The Impact of Covid-19 on Higher Education Around the World', *International Association of Universities Global Survey Report*.

Marquina, M. (2020) 'The Argentine University against COVID-19: Old and New Discussions in an Unforeseen Reality', *International Higher Education* Special Issue No. 102, pp. 34-36.

Mathews, E. (2020) 'India's Higher Education and COVID-19: Responses and Challenges', *International Higher Education Special*, Issue No. 102, pp. 22-24.

McCulloch, G. (2020) 'Covid-19, education and the new abnormal', in Peters, M. et al. (2020) Educational Philosophy and Theory Reimagining the new pedagogical possibilities for universities post-Covid-19. An EPAT Collective Project. *Educational Philosophy and Theory*. (10.080/00131857.2020.1777655) https://www.researchgate.net/publication/348555930

Mchunu, K. (2021) 'FOAD Staff Reflect on the Coronavirus Pandemic', *DUT News*, 8 January. https://www.dut.ac.za/foad-staff-reflect-on-the-coronavirus-pandemic/

Mlamla, S. (2020) 'Varsity students sign petition to return to residences amid lockdown', *IOL*, 8 May. https://www.iol.co.za/capeargus/news/varsity-students-sign-petition-to-return-to-residences-amid-lockdown-47593385

Moosa, F. (2020) '#Save UFH AcademicYear, Say UFH Students', *The Daily Vox*, 2 July. https://www.thedailyvox.co.za/saveufhacademicyear-say-ufh-students/

Motala, S. and Menon, K. (2020) 'In search of the 'new normal': Reflections on teaching and learning during Covid-19 in a South African University', *Southern African Review of Education*, Special Issue on Emergent Educational Imaginaries During the Covid-19 Pandemic, (eds) Azeem Badroodien and Aslam Fataar; Vol. 26, Issue 1, pp. 80-98.

Motsepe Foundation (2021) 'Universities forced to leap into the future', *Mail and Guardian*, 26 February-4 March.

Mthiyane, S. (2020) 'Expert Opinion: 'Technology has become the pivot on which everything turns" – UP COO on how COVID-19 has reshaped universities' relationship with technology', *University of Pretoria News*, 3 September.

https://www.up.ac.za/news/post_2950192-expert-opinion-up-career-counselling-specialist-outlines-how-learners-on-lockdown-can-chart-a-course-for-future-success

Mtshali, N. (2020) 'Three South African vice-chancellors paint a post-COVID picture for universities', *The Conversation*, 2 August. https://theconversation.com/three-south-african-vice-chancellors-paint-a-post-covid-picture-for-universities-143490

National Research Foundation (2020) 'Projects Announced: COVID-19 Africa Rapid Grant Fund', *NRF News*. https://www.nrf.ac.za/media-room/news/projects-announced-covid-19-africa-rapid-grant-fund

Ndlovu, S. (2020) 'The impact of Covid-19 on students with disabilities' access to education in South Africa', *Journal of Social Development in Africa*, Special Issue on Covid Pandemic 2020, Vol. 34, No. 2. July, pp. 131-166.

Neelakantan, S. (2020) 'Education Department Suspends Collection on Late Student Loans Amid Coronavirus Pandemic,' *Diverse*, 25 March. https://diverseeducation.com/article/170910/

Nietzel, M.T. (2020) 'More Than A Dozen Additional Universities Begin Furloughs, Affecting Thousands of Staff', *Forbes*, 4 May. https://www.forbes.com/sites/michaeltnietzel/2020/05/04/more-than-a-dozen-additional-universities-begin-furloughs-affecting-thousands-of-staff/?sh=acd22317a478

NL Times (2021) 'Universities continue proctoring despite privacy issues', *NL Times*, 27 January. https://nltimes.nl/2021/01/27/universities-continue-proctoring-despite-privacy-issues

Novicki, L. (2020) 'Covid-19: Boycott threatened over online teaching', *GroundUp*, 21 April. Previously available at https://www.groundup.org.za/article/covid-19-student -boycott-threatened-over-online-teaching/

Nyerere, J. (2020) 'Kenya's university students and lecturers face huge challenges moving online', *The Conversation*, 29 April. https://theconversation.com/kenyas-university-students-and-lecturers-face-huge-challenges-moving-online-136682

Nzimande, B. (2020) Address by the Minister of Higher Education, Science and Innovation, Dr Blade Virtual Higher Education Leadership and management Conference, *USAf Virtual Summit was on Leading and Managing the University in Africa for Disruption, Complexity and Change*, 9-11 December 2020. https://helm.ac.za/wp-content/uploads/usaf-helm-virtual-summit-address-by-minister-nzimande.pdf

One News (2020) 'Students worried as NZ universities take different approaches to grades amid Covid-19 disruption', *Television New Zealand*, 5 June. https://www.tvnz.co.nz/one-news/new-zealand/students-worried-nz-universities-take-different-approaches-grades-amid-covid-19-disruption-v1

Olasunkanmi, I. (2020) 'Nigerian university students find online learning painful: here's why', *The Conversation*, 25 August. https://theconversation.com/nigerian-university-students-find-online-learning-painful-heres-why-143919

Packham, A. (2020) 'One in four students unable to access online learning during lockdown – survey', *The Guardian*, 8 September. https://www.theguardian.com/education/2020/sep/08/third-of-students-unable-to-access-online-learning-during-lockdown-survey

Peters, M. et al. (2020) Educational Philosophy and Theory Reimagining the new pedagogical possibilities for universities post-Covid-19 An EPAT Collective Project. *Educational Philosophy and Theory*. (10.080/00131857.2020.1777655) https://www.researchgate.net/publication/348555930

Petersen, F. (2020) 'Universities have a role to play in a pandemic and should adjust accordingly', *M&G Online*, 18 April. https://mg.co.za/article/2020-04-18-universities-have-a-role-to-play-in-a-pandemic-and-should-adjust-accordingly/

Pikoli, Z. (2020) 'Academics reject claims that 2020 has been a success for universities', *Daily Maverick*, 14 December. https://www.dailymaverick.co.za/article/2020-12-14-academics-reject-claims-that-2020-has-been-a-success-for-universities/

Razawi, L. (2020) '"Students like the flexibility": why online universities are here to stay', *The Guardian*, 27 May. https://www.theguardian.com/education/2020/may/27/students-like-the-flexibility-why-online-universities-are-here-to-stay

Rossiter, S. (2020) 'Cheating becoming an unexpected Covid-19 side effect for universities', *CBC News*, 21 June. https://www.cbc.ca/news/canada/edmonton/cheating-becoming-an-unexpected-covid-19-side-effect-for-universities-1.5620442

Roy, A. (2020) 'Pandemic is a Portal,' *Financial Times*, 3 April. https://www.ft.com/content/10d8f5e8-74eb-11ea-95fe-fcd274e920ca

Salmi, J. (2020) COVIDS's Lessons for Global Higher Education. Lumina Foundation: Indianapolis.

Sayed, Y. & Singh, M. (2020) 'Evidence and education policy-making in South Africa during Covid-19: Promises, researchers and policymakers in an age of unpredictability', *Southern African Review of Education*, Special Issue on Emergent Educational Imaginaries During the Covid-19 Pandemic, (eds) Azeem Badroodien and Aslam Fataar; Vol. 26, Issue 1, pp. 20-39.

Scottish Government (2020) 'Extra hardship payments for students', *Scottish Government News*, 8 April. https://www.gov.scot/news/extra-hardship-payments-for-students/

Shoba, S. (2021) 'Department of Higher Education and Training pumps R68m into Covid-19 research and vaccine development', *Daily Maverick*, 18 January. https://www.dailymaverick.co.za/article/2021-01-18-department-of-higher-education-pumps-r68m-into-covid-19-research-and-vaccine-development/

Slugoski, K. (2020) 'NAIT, University of Alberta switch grading system amid COVID-19 pandemic', *Global News*, 23 March. https://globalnews.ca/news/6720579/nait-university-of-alberta-grades-covid-19-pandemic/

Smit, V.A. & Serfontein, C. (2020) 'Traditional universities must adapt or die', *M&G Online*, 31 August. https://mg.co.za/education/2020-08-31-traditional-universities-must-adapt-or-die/

Ssebwami, J. (2020) 'African universities urged to put classes on line urgently', *PML Daily*, 20 March. https://www.pmldaily.com/news/education/2020/03/african-universities-urged-to-put-classes-online-urgently.html

Stewart, B. (2020) 'Online exam monitoring can invade privacy and erode trust at universities', *The Conversation*, 4 December. https://theconversation.com/online-exam-monitoring-can-invade-privacy-and-erode-trust-at-universities-149335

Taylor-Guy, P. & Chase, A.M. (2020) 'Universities need to train lecturers in online delivery, or they risk students dropping out', *The Conversation*, 25 March. https://theconversation.com/universities-need-to-train-lecturers-in-online-delivery-or-they-risk-students-dropping-out-133921

Tett, G. (2021) 'After Google drama, Big Tech must fight against AI bias', *FT Weekend*, 27-28 February.

The University of Melbourne (2006) The Melbourne Model: Report of the Curriculum Commission. Previously available at http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.132.9452&rep=rep1&type=pdf

University of Zululand (2020) 'Distribution of Laptops', *Unizul*, 21 August. www.unizulu.ac.za/distribution-of-laptops/

Universities South Africa (USAf) (2020a) 'Online learning is integral to the future of Higher Education; embrace or become irrelevant', *Higher Education in Africa Webinar on COVID-19 and Africa's Higher Education System: What is going o*n? 12 May. https://www.newssite.co.za/usaf/online-learning.html

Universities South Africa (USAf) (2020b) 'Institutions across Africa face common challenges in the COVID-19 crisis', *Higher Education in Africa Webinar on COVID-19 and Africa's Higher Education System: What is going on*? 13 May. https://www.newssite.co.za/usaf/covid-challenges.html

Universities South Africa (USAf) (2020c) 'Cross-continental dialogues on Higher Education: How are universities coping with the COVID-19 crisis?' Webinar, 24 June. https://www.newssite.co.za/usaf/universities-covid19.html

Universities South Africa (USAf) & Human Sciences Research Council (HSRC). (2020) 'Universities are enduring the COVID-19 pain with students; they believe in pulling through, together', *The Impact of Universities' COVID-19 Response on Different Student Groups, Webinar*, 27 June. https://www.usaf.ac.za/universities-are-enduring-the-covid-19-pain-with-students-they-believe-in-pulling-through-together/

Van Vught, F. (2020) ‘Covid-19 is leading to a quick Shift to Online Learning’, *Regional/National Perspectives on the Impact of Covid-19 on Higher Education*, International Association of Universities. Paris.

Veletsianos, G. (2020) ‘The 7 elements of a good online course’, *The Conversation*, 10 June. https://theconversation.com/the-7-elements-of-a-good-online-course-139736

Vincent, J. (2020) ‘University staff are worried their recorded lectures will be used against them – When lectures go online who gets to keep the copyright?’, *The Verge*, 20 August. https://www.theverge.com/21373669/recorded-lecture-capture-copyright-universities-coronavirus-fears

Warner, J. (2021) ‘MOOCs are “Dead. ”What’s Next? Uh-oh’, *Inside Higher Education* 11 October. https://www.insidehighered.com/blogs/just-visiting/moocs-are-dead-whats-next-uh-oh

Whitelaw, E., Culligan, S. & Branson, N. (2020) ‘Students will return on an unequal footing because of poor remote-learning access’, *Daily Maverick*, 27 September. https://www.dailymaverick.co.za/article/2020-09-27-students-will-return-on-an-unequal-footing-because-of-poor-remote-learning-access/

Williamson, B. & Hogan, A. (2021) *Pandemic Privatisation in Higher Education: Edtech and University Reform*. Education International. Brussels.

Woldegiorgis, E.T. (2022 forthcoming) ‘The challenges of online learning in African higher education: A critical reflection on the digital divide associated with COVID-19’, in E. Woldegiorgis and P. Jonck (eds), *Higher Education in the face of a Global Pandemic*. Leiden. The Netherlands: Brill.

Zhou, N. (2020a) ‘Up to 50% of university students unhappy with online learning, regulator finds;’, *The Guardian*, 1 December. https://www.theguardian.com/australia-news/2020/dec/02/up-to-50-of-university-students-unhappy-with-online-learning-regulator-finds

Zhou, N. (2020b) ‘Female enrolment at Australian universities dropped by 86,000 in 2020 as “pink recession” hit’, *The Guardian*, 11 November. https://www.theguardian.com/australia-news/2020/nov/12/female-enrolment-at-australian-universities-dropped-by-86000-in-2020-as-pink-recession-hit