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The COVID-19 pandemic: A catalyst for creativity and collaboration for online learning and work-based higher education systems and processes

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Abstract

Purpose – The purpose of this research is to focus on work-based problems catalysed by the COVID-19 global pandemic, based on a case study of a multi-continental, multi-campus university distributed across Kenya, Tanzania, Uganda and Pakistan. Higher education institutions (HEIs) in developing countries lacked pre-existing infrastructure to support online education and/or policy and regulatory frameworks during the pandemic. The university's programmes in Pakistan and East Africa provide lessons to other developing countries' HEIs. The university's focus on teaching and learning and staff development has had a transformational organisational effect.

Design/methodology/approach – Case study with participatory approaches aimed at co-production of responsive systems and co-creation of effective curriculum and faculty training is used.

Findings – Systems and processes developed across the university in the effort to ensure educational continuity. From the disruption to all educational programmes and the disarray of regulatory bodies' responses, collaboration emerged as a key driver of positive change. The findings reiterate the value of trust and provision of opportunities for those with the requisite competencies to lead in a participatory and distributive manner whilst addressing limited human and financial resources. The findings reflect on previous work respecting organisational change recast in the digital age.

Originality/value – This paper reflects the authors' work in real-time as they led and managed changes encountered during the COVID-19 pandemic. The paper will be of value to management and leadership cadres, particularly in developing contexts, responsible for recovery and sustainability of the higher education sector.

Keywords Pakistan, Developing countries, East Africa, Higher education, Online education, COVID-19

Paper type Case study

Introduction

The COVID-19 pandemic has spurred focused research and development, particularly in the health sciences. Unprecedented collaborations have responded to an urgent global threat leading to rapid vaccine development and rollout. At the outset of 2021, 46 countries had approved emergency vaccine use, of which only one country was a low-income country (WHO, 2021). The COVID-19 pandemic has been a global catastrophe. Poverty rates have risen and national economies have experienced recessions or depressions with near-term prospects for recovery being sluggish, forecasted at less than 2% if the pandemic is brought under control (World Bank, 2021).

In the wake of the pandemic, education has been severely curtailed in early years' centres, entire school systems and HEIs. During the first wave of the pandemic, which occurred between March and July 2020, UNICEF and UNESCO estimated that between 1.6–1.9 billion children and learners were out of school or unable to access education. Based on prior research on the impacts of the 2005 northern Pakistan earthquake, Andrabi *et al.* (2020) suggest potential negative effects of this pandemic to those who were in school at that time would include irreversible intergenerational loss of learning and livelihoods.

With this backdrop, this paper presents responses of a multi-campus international university as the pandemic unfolded across its geographies of Pakistan and East Africa (EA). The paper focuses on systems, processes and management of teaching and learning at the whole University level as they evolved in response to the health crisis, subsequent lockdowns and circumstances of faculty and students whilst mindful of its mandate of providing access to quality education.

Theoretical foundations

Twenty-five years ago, in reviewing work-based learning (WBL) in higher education in the United Kingdom, Brennan and Little (1996) noted with irony that "work-based learning in higher education" sounded like a contradiction. Surely, for entities devoted to education, professional development and training, "learning" for both academic staff and course participants was the focus, yielding academic accreditation. This tipping point in the Anglophone world led to a clear division between "academic" and "vocational" education.

In the intervening quarter century, digital ecosystems that surround higher education and catalysed by the COVID-19 pandemic exposed the limitations of face-to-face, in-person and campus-based education. Concurrently, staffing of higher education institutions earlier divided into "faculty" and "support staff" were necessarily bridged as technological competence and applications to teaching and learning became paramount. The work of Mishra and Koehler (2006) and Kessler *et al.* (2017) on Technological Pedagogical Content Knowledge (TPCK) – professional development and teaching framework, building on Shulman's (1987) construct of Pedagogical Content Knowledge (PCK) – showed the importance of technology knowledge as both a necessity to improve educational quality as well as in teaching learners who are "digital natives" (Prensky, 2009).

WBL has become an important consideration in higher education globally. Arani *et al.*'s (2004) work in Iran found WBL has been used instrumentally for professional development as well as to encourage organisational development. It is important to research this phenomenon in diverse contexts as transposing WBL policies and plans has shown limited efficacy.

This paper presents a descriptive and historical analysis and critical self-reflexive study of one university in the global south experiencing rapid transition to online and blended learning. Along with the rapid transition, capacities of staff, following a work-based learning model (Kotter, 1996, p. 2208), in and for their work-based responsibilities supported human resource development and the pursuit of quality and excellence across the whole institution catalysed by the COVID-19 pandemic.

This paper is one-step towards understanding "learning" within HEIs as a theoretical exercise as well as its pragmatic considerations for faculty, support staff and students who must respond rapidly to the development and acceleration of digital ecosystems (Bateson, 1972).

Background: the network of quality teaching and learning

The Aga Khan university (the university henceforth) operates in resource-constrained environments with limitations in infrastructure, access to electricity and Internet connectivity, further compromised by students located in remote and disadvantaged areas including mountainous areas and isolated villages. In the context of its geographies, the university's mission aims to be a research-led, student-centred university (Moran, 2014) influencing social development of the communities where it works. The university operates as a private institution on three continents in six countries with 13 campuses based across Pakistan, Kenya, Tanzania, Uganda, Afghanistan, and the UK and functions within a larger development network of agencies (The Aga Khan Foundation, 2018). The university promotes its principles of impact, quality, relevance and access through partnerships, responsive programming and innovation, positioning it to contribute at the whole of society level disproportionate to its size by working to influence higher education policy and practice. Khamis and Khamis (2020) present a full consideration of the university's social development mandate and impacts.

The university aims "to offer programmes of international quality; prioritising teaching and research that underpin intellectual innovation and change; and developing leaders through its educational programmes." (AKU, 2019a). In line with its strategic imperatives of promoting quality over quantity in student intake and excellence in teaching and to strengthen the student learning experience, in January 2013 the "Network of Quality, Teaching and Learning" (QTL_net) was established. Rather than a "centre", this globally distributed integrated support network was created to respond to the large geographic spread of the university. QTL_net aims to (AKU, 2019b):

(1) Support faculty with on-going continuous educational development in the areas of pedagogy and curriculum, through short courses, workshops and mentorship;

(2) Enhance teaching practice with the uptake and application of information and instructional technologies-associated pedagogies across academic programmes; and

(3) Harmonize and standardize university-wide quality assurance policy and procedures, initially for periodic review of existing programmes.

QTL_net supports academic entities and faculty to promote quality learning experience for students. Through excellence in teaching and programme provision, QTL_net is mandated to "... *deliberately support and encourage research by our faculty while at the same time putting the highest value on a student-centred environment ...[and] strive to create a teaching and learning environment that rivals that of any university in the world*" (Moran, 2014).

Advance higher education in the UK accredits QTL_net programmes benchmarked to international best practices standards, enabling select members of faculty to gain Higher Education Academy Fellowships (UK); ours is the only university to achieve this recognition in EA and South Asia. After its first lustrum (2013–18), the external unit reviewers noted: "... QTL_networks have been remarkably successful in raising the profile of the importance of teaching and learning within the University in a very short time. They have exceeded the expectations of most educational development units in any country." (Dawson *et al.*, 2019).

Globally, the higher education community likened the rapid transition to remote learning and "quaranteaching" (Woods *et al.*, 2020), in response to the COVID-19 pandemic, as akin to

"building the plane whilst flying it". The university was in the enviable position of having piloted blended learning since 2011 with an existing virtual learning environment (VLE) well-situated to scale up.

Approach and methods

The paper focuses on how the COVID-19 pandemic catalysed and built on the mandate of a private university working in developing contexts. This mandate vectors a combined research-practice approach, inculcates and promotes innovation, and builds on global best practices aimed at academic excellence.

The nature of the university's work and the development of its programmes is, thus, purposive and targeted to achieve defined impacts. For the purposes of this paper, it is evident that the discipline of work-based learning and research focused on HEIs is primarily from the lens of Western contexts (Altbach *et al.*, 2019). Thus, the approach adopted is mindful of several "messy" and "wicked" problems that must be dealt with at the outset (Fergusson, 2019). This case study (Yin, 2017) of the university recognizes:

(1) Problem identification is a co-construction of the various actors engaged with higher education;

(2) Solutions proposed and plausible are thereby "innovations" within the context;

(3) Cognisance of cross-cultural realities spanning geographies of the university is important; and

(4) Articulation with policy that is both shared and consonant or at variance across countries will reflect the organisation's management and governance structures.

The COVID-19 pandemic illuminated the modus operandi of most (if not all) institutions: health concerns outweighed and determined the course of all activities. This response determines how the crisis is perceived and, in turn, how organisations respond in other domains of their work. The immediate crisis, beginning January 2020, compelled cessation of all academic programmes by the central governments and regulatory bodies and, as a duty of care, was accepted by the university leadership. As the pandemic's end was not imminent, with the launch of a new term, an opportunity arose to rapidly transition to online programme offerings to continue learning.

This concomitant crisis and opportunity invited a university-wide participatory approach targeting to faculty across all academic programmes to reimagine realisation of the university's mandate. Off-the-shelf products including programme design, content and pedagogies found to be effectual in supporting online and distance learning for decades elsewhere are sub-optimal in developing contexts (Ben-Peretz *et al.*, 2004; Laurillard, 2013). Non-contextual intellectual resources, scholarship and approaches are of limited value and applicability when applied across cultures (Patel and Lynch, 2013). In effect, developing countries necessarily must become "local" knowledge producers and apply contextually (and culturally) relevant solutions in their organisational development efforts (Maringe, 2017). However, international best practices with critical engagement (Khamis and Scully, 2020) and globally-focused initiatives, such as the Sustainable Development Goals (United Nations, 2015), have an important scaffolding role in promoting quality and equity in higher education.

The methods supporting this study and paradigm informing this paper reflect the university's pursuit to be a "research-praxis" organisation and intrinsically link to WBL and its organisational parameters in developing countries.

This paper is a reflexive narrative case study of the experiences of the authors who were engaged in managing the crisis at the whole university level. The approach captures

responses and development of systems and processes, support and training of faculty, teaching and learning strategies, and research spanning the scholarship of teaching and learning in higher education. The authors' institutional responsibilities span the above areas with a direct report to the university's leadership and governing body on the progress and impacts of the efforts.

Document review of pre-pandemic materials and of policies and initiatives developed in response to the pandemic form the data sources. Reflective, real-time notes, minutes of meetings and documents developed to support new initiatives and processes across the university supplement the data sources.

Change process
We consider the pandemic response using Kotter's eight step model ([Table 1](#)).

No	Steps	Process
1	Create a sense of urgency	Creating the climate for change
2	Build the guiding coalition	
3	Engage the university's strategic vision and initiatives	
4	Communicate intention and enlist volunteers with requisite competencies	Engaging and enabling the whole organiastion
5	Enable action, remove barriers and empower innovation	
6	Create short-term wins	
7	Sustain acceleration of positive changes	Implementing and sustaining change
8	Institute systemic, organisation and process changes across the University	

Table 1.
Kotter 8-step change model (adapted from [Kotter, 1996](#), [2008](#))

Steps 1 and 2: create a sense of urgency and build a guiding coalition
With the declaration of the pandemic and lockdown of learning institutions, QTL_net came into the spotlight overnight. Realising this crisis was an opportunity QTL_net assumed a leadership role supporting faculty to transition to online learning (OL) rapidly. Immediate responses ensuring faculty preparedness, student engagement and, critically, continuity of academic programmes included:

(1) Developed new/revised, appropriate and responsive university-wide policies, good practice guidelines and checklists for online and remote programme readiness.

(2) Through responsive resource development, QTL_net identified "faculty champions" and skilled technical assistants to migrate courses onto the pre-existing but underutilised VLE.

(3) Launched Zoom for synchronous sessions and ongoing teaching support for all faculty, promoted VLE for asynchronous teaching, offered "Digital Boot Camps" to optimize interactive and technologically-enhanced pedagogical capacities, supported a community of practice in online teaching and learning through faculty-led "EdTech Lounges" and offered small group and individual faculty consultations on instructional design including challenges such as proctoring exams and clinical practice. The university required new faculty to take the "Teaching and Learning Enhancement Workshop" (TLEW) and the course design "Rethinking Teaching" (RTT) workshop, both of which were re-designed for online delivery.

Steps 3 and 4: develop the vision and communicate for buy-in
The Karachi campus suspended face-to-face teaching in March 2020, with students advised to return home. The East African (EA) campuses followed immediately thereafter. The geographic reach of the university required a coordinated system to respond to increasing and changing demands from regulatory bodies and to ensure effective transition to online teaching. We created an enabling environment for faculty and students through the "Rapid Online and Remote Teaching Coordinating Group (RORTCG)". In April 2020, the provost created this group, chaired by the QTL_net director, to enhance synergies across faculties and coordinate the online transition. RORTCG membership included programme leaders of all academic entities, both graduate and undergraduate, from all campuses and representatives of academic support service entities (e.g., library, IT and student affairs).

Steps 5 and 6: empower for action and create short-term wins
By June 2020, 80% of the university's programmes had been supported with the requisite training to start online teaching. Faculty achievements were celebrated on International Teachers' Day through digital thank-you posters, messages from the provost and vice provost QTL and acknowledgements at the university assembly. Workshops were offered for the VLE support teams to enhance their skills and capabilities to empower them for action. One COVID-19 inspired action by faculty members was the virtual, weekly "EdTech Lounge". From April to December 2020, weekly 45–60 min EdTech Lounges featured a member presenting for 15-min, followed by questions and answers, with a QTL_net member summarizing key ideas and providing relevant updates on university-wide developments. The EdTech Lounge created a non-threatening, virtual space to engage on issues related to teaching and learning experiences, dilemmas, and challenges and to forge new and collaborative ways of teaching with technology. These activities empowered faculty for action and short-term wins.

Steps 7 and 8: implementing and sustaining change
In July 2020, Pakistan announced the resumption of on-campus teaching. Although most students returned to campus, the university continued online and blended teaching over the following three months. As students, many from distant remote areas in the Himalayan Mountains, gradually returned to campus, another lockdown loomed due to a second COVID-19 wave. Exemptions were granted for final-year undergraduate medical and nursing students for credentialing exams requiring prescribed clinical practice time and post-graduate candidates requiring involvements in hospital wards.

As the rapid response requisite waned, efforts shifted to emerging strategic challenges. Coordination, access to resources, budgetary oversight and expertise and training of technologists to support blended online learning were prominent. The RORTCG expanded its remit to support students through university-wide student orientation, co-developed by students and staff, focusing on preparedness for OL.

Results and findings
In this section, the key lessons are discussed.

Responding to national higher education commissions' requirements
The rapid transition efforts were a challenge for HEIs and regulatory bodies, which were ill-prepared for transition to remote, distance and OL. Whilst the regulatory bodies tried to develop compliance mechanisms, they lacked pre-existing relevant standards for contexts where access, electricity and Internet connectivity issues prevailed. In the throes of

disruption, hierarchies were quickly flattened as regulators partnered and learned from HEIs to ensure quality learning through an online environment. Guiding documents and course checklists for online provision were shared across institutions and regulators documented promising practices.

As a distributed university, compliance with the requirements of multiple national regulatory bodies was a challenge. In Pakistan, the Higher Education Commission (HEC) provided guidance notes and expected quick responses related to online teaching readiness. The Kenyan Commission for University Education (CUE) expected a comprehensive self-assessment showing how quality would be ensured in the online programmes, which was similar to requirements of Uganda's National Commission for Higher Education and Tanzania's Commission for Universities. Though multiple layers of external quality assurance facilitated the university to strengthen support systems and improve teaching quality, these were resource-intensive, multi-departmental exercises affecting personnel already inundated with the tasks of rapid transition. A positive outcome was creation of guiding documents supporting faculties to think through additional areas of support required for OL. Tensions between HEIs' capacities to address education and regulatory bodies' oversight and compliance requisites are likely to persist in the post-pandemic era impacting HEIs and their organizational work-based practices.

Online teaching approaches

Asynchronous teaching required more faculty time and effort, previously unaccounted for in traditional faculty workloads. Faculty needed additional support, which was not always available, to conceptualise and design asynchronous teaching activities and content. As a result, some faculty defaulted to synchronous teaching approaches, which potentially compromised those students with limited bandwidth. Initially, synchronous online teaching simulated teacher-centred pedagogies of "sage on the stage" and the tyranny of PowerPoint presentations. These missed transitional moments compromised student and faculty engagement, as both struggled to learn how to sustain attention and participation in the OL environment.

Faculty readiness

Faculty readiness issues related primarily to creating digital content (i.e., audio or video lectures), conceptualising online teaching and incorporating active teaching and assessment methods. As the university is based in developing countries, not all faculty members had reliable devices or Internet connectivity at home. Faculty members used their personal phones to contact students, which led to privacy and confidentiality concerns. With the pandemic's persistence, challenges of faculty motivation, mental wellness, and increased workload in trying to cope with the steep and sustained learning curve were evident. Faculty research, especially those not working on COVID-19 research, was affected, leading to concerns regarding annual appraisals, which required faculty to show research outputs.

Access to technology, connectivity and IT support

Access to technology was the root of many challenges. While physical campuses are in large urban centres (i.e., Karachi, Nairobi, Dar-es-Salaam and Kampala) and well-resourced, most students come from remote places where access to devices and connectivity are minimal. As students returned home, the university explored ways to enable access through devices and connectivity. In the remote mountainous regions of Pakistan, students were provided transport (as many were women who could not travel alone) to attend online classes at the local Aga Khan primary/secondary schools. In EA, students were provided with data bundles as a majority had access to a device and connectivity. Moving forward, HEIs must respond to issues of access, devices, and connectivity for students.

Working remotely and dealing with uncertainty
Campus-based universities release annual academic calendars with defined dates for the semester, examinations and convocations ensuring predictability in processes. The COVID-19 pandemic propelled such foundations into uncharted territory. Decisions regarding campus opening or closing were determined by national governments forcing universities to be reactive with last-minute decisions. Such responsiveness required online meetings accommodating people in different locations and time zones. The merging (and competing) of personal and professional lives became a concern for many: "We were not resourced for remote work and had to make adjustments at home" (Programme leader's reflection). Faculty members had to keep young children engaged to join a Zoom meeting without disruption. A positive outcome was that students disruptions contributed to a repositioning with the family unit.

Co-creation and reflective practice
COVID-19 catalysed faculty commitment and openness to the scrutiny of teaching, accountability and professionalisation. Faculty asked more discerning and pedagogically critical questions at the weekly EdTech lounges: Just because we are teaching, are students learning? How can assessments be used for learning and not just for grading? These same questions should be asked about face-to-face teaching; however, digital imperatives forced the re-focus on the relationship between teaching and learning outcomes.

What became critical was the importance of students as co-creators of the curriculum, role re-definition of "lecturers" and "support staff" and professional/training needs of all engaged with teaching. "Support staff", such as educational developers, instructional designers, and educational technologists, were now viewed as "experts" in course design with pedagogical competency in the digital ecosystem and "professionals" in their own right.

A promising practice of the university's students as co-creators of courses and teaching-learning experiences yielded a university-wide programme introducing students to concepts and essential skills of OL. To develop the programme, three students were recruited (from medicine, nursing, and education) as a part of an existing Work-Study Programme. Under staff mentorship, students were provided with a course outline and training on the VLE to develop online modules and activities for the programme. Arguably, having students as co-creators of curriculum increased relevance and ownership and increased synergies between geographically distributed sites.

Moving forward, reflective practice will be required to ensure the quality of teaching in the post-COVID-19 world, distribute responsibilities and build structures that empower academic and academic-support staff to take greater ownership of the process.

Team-teaching
Traditionally teaching has been a private activity between the instructor and their students. With the rapid transition to OL, teaching became more than just about the teacher, course content and learners and included the support services. During the pandemic, team-teaching increased with faculty teams ranging from two to four members co-delivering courses previously taught by one faculty member. Team teaching enabled a blending of skillsets and mutual support through the OL transition. Online teaching experiences were enriched as faculty learned and innovated together. Team teaching also brought challenges as faculty adjusted their course planning and facilitation strategies to ensure a collaborative approach in an environment where appraisals value individual achievements and outputs.

To benefit from the merits of team teaching, changes will be required in quality assurance processes and rewards and recognition for faculty. For example, current individual faculty teaching awards may be replaced with an award or recognition for the entire teaching team.

Central responses and devolved responsibilities: top-down versus bottom-up
Before COVID-19, academic support services provided support within each country or region, resulting in parallel provision which replicated functions including IT and central services for research and teaching support, student affairs, and library. Faculty and academic support staff roles and established modes of interaction changed overnight, shifting faculty reliance on technology for remote and online teaching, where their skills were limited. The role of support services expanded from exclusive pre-teaching support to active engagement during the teaching phase, post-teaching reflection and identification of other support areas.

Teaching and academic programmes changes, catalysed by available technologies, raised numerous challenges. Challenges facing HEIs such as central services control versus academic entity oversight of programmes and hierarchy of academic versus non-academic staff (Jongbloed *et al.*, 2008; Tierney, 2004) remained muted at the outset of the pandemic as attention was focused on the rapid response and continuity of programmes. However, the campus support versus remote provision and associated costs came into focus as systems and processes were established in response to the crisis. The IT department was not resourced for off-campus teaching support, which led to hesitation to engage with such provision. Questions were raised about access, equity and quality of programmes especially in remote and marginialised areas. The "digital divide" was no longer a theoretical idea but affected students' and faculty's capacity to ensure continuity in the delivery of programmes.

Space was created within RORTCG to address emerging policies, processes and management approaches needed to support entities to develop new and responsive ways of working. As the faculty started working closely with the support services, it became clear that media and communication specialist, librarians and IT services would need additional competencies and expertise in the post-COVID-19 world. While focusing on academic programmes, support staff became aware of the need to understand the teaching/learning process, assessment, curriculum requirements and regulatory obligations. The RORTCG played a critical role in ensuring timely and effective responses by academic entities as they vacillated between suspension and partial opening of campuses.

Discussion
The case study presented above reflects Kotter's change model (1996, 2008) to implement changes successfully at the organisational level. However, step one of the eight step mode, create urgency, was unforeseen. QTL_net was empowered by senior university leadership to innovate and experiment, progress initiatives and establish processes for faculty development and training. Critically, these initiatives built on the University's mission to provide excellence in education and best practices in collaboration, co-production of knowledge and peer support to confront the crisis. These shifts in thinking, processes, systems responsiveness and development will need to be embedded going forward. The critical and necessary changes will require ongoing support from academic entities and faculty to have a lasting effect on programme development. This situational advancement is by no means guaranteed in a post-pandemic period in which a "return to the old normal" is anticipated by many. As the spaces to rethink education expand, the university's leading example is instructive to other tertiary institutions in developing countries which struggle to continue to provide meaningful and ubiquitous education. Many HEIs have temporarily closed or reduced services; some have ceased operations due to being unprepared to provide education remotely; while others have struggled to maintain a semblance of their programmatic offerings by mirroring traditional face-to-face provision in the emergent online environment, seen to be ineffective by students.

From the 1960s onwards, the "era of innovation in education" gained momentum built on increasing managerial efficiencies within existing structures and programmes. This led to the development of a new field of educational change management and typologies to support organisational development (Selwyn, 1975; Tanner and Tanner, 1980). As the digital ecosystem drives innovations at an accelerated pace, world economies now must become part of the knowledge society further escalating the role and importance of HEIs (Schwab, 2017). Fundamental to organisational development in the foreseeable future will be responsiveness to WBL and its applied discipline of work-based research to inform policy development and systemic changes at the whole institution level (Fergusson, 2019). For universities in developing contexts, the challenge to support national development plans with a social impact agenda seems to loom in the post COVID-19 era.

The two decades-old shift towards the uptake of IT in higher education is now being realised: the university as an organ of society must move towards a distributive leadership model (Sife *et al.*, 2007). In the context of the university and its geographies, this opportunity enabled younger cadres, the next generation of leadership, to lead the changes which they are well-suited to address. The more technologically savvy are not just more confident with online learning modalities but as "digital natives" naturally seek collaboration (Prensky, 2009) and reflect with increased problem-solving capabilities seeking to bridge leadership with practice (Youngs, 2017).

As organisational responsiveness is now related to organisational mission and relevance, if not survival, human resources and capabilities have become a focus in many developing countries. HEIs must support the creation of new approaches to engage faculty and learners pedagogically (Laurillard, 2013) and work on systems-based solutions as a path to new ways of thinking, working, collaborating, and developing new work-based competencies. As Grice (2018) demonstrates higher education has much to learn from school systems that have been innovating on pedagogical leadership as the basis of reimagining education for the 21st century.

Regulatory bodies are developing post-pandemic operational plans to support the work of HEIs whilst ensuring intent and quality of education at the societal level. As Metcalf (2021) states: "At this early stage we may not be able to fully comprehend the many-layered policy implications of the COVID-19 pandemic for higher education" (p. 7). It is critical that grounded, contextual and responsive studies are generated. The imperative to heed Altbach *et al.*'s (2019) conjecture that pressures faced by developing countries to meet the challenges of education, such as increased competition, shrinking economies and mounting societal issues, are further complicated by current contextual realities.

Conclusion

As the university confronted the pandemic and developed responsive systems and processes, its pre-pandemic efforts were accelerated to effectively transform teaching and learning with attendant curriculum development, oversight and quality enhancement. Simultaneously, faculty development and creating a cohesive community of practice across and within faculties were imperative. Acknowledging and embedding the roles of support staff and departments has empowered and created a new generation of leaders committed to the mandate reimagined within the digital ecosystem.

If tertiary institutions are to support the development of their faculties, the binaries of teaching and learning, faculty and students, and academic and non-academic must undergo fundamental transformations. Institutions will need whole-systems approaches within which organisational development leads to effective programmatic offerings. This will include training para-professionals to address the rapidly evolving digital ecosystems; embrace

authentic engagement with WBL; support learners to emerge as problem-solvers and creative and productive knowledge co-producers, and enable pedagogical evolution to respond to unpredictable and uncertain futures.

The COVID-19 pandemic's devastating effects on the countries where the university operates have compromised educational careers and outcomes of the current generation of learners. COVID-19 will have long-term effects primarily as countries seek to rebuild and support their economies as social sector support for education has been severely affected and will undoubtedly force a transformational "rethink" of education (UNDP, 2020). This study provides a glimpse into what is possible in low-resourced contexts and a potential roadmap to reset higher education as we face the new normal.

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