Journal of University Teaching & Learning Practice

Volume 20
Issue 2 *Higher education and digital writing in a post-pandemic world*

Article 14

2023

Disruptions and flux in Higher Education: Turning the focus towards the early career researcher

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Recommended Citation

Gerwel Proches, C., & Singh, S. (2023). Disruptions and flux in Higher Education: Turning the focus towards the early career researcher. *Journal of University Teaching & Learning Practice, 20*(2). https://doi.org/10.53761/1.20.02.14

Disruptions and flux in Higher Education: Turning the focus towards the early career researcher

Abstract

The COVID-19 pandemic created unique challenges for early career researchers, especially those based in higher educational institutions (HEIs). Online teaching and learning, and remote working, resulted in HEIs not being in their usual social space, which is generally more conducive for learning, collaboration, reflection and reflexivity, and critical thinking in their professional and personal development. A systemic lens approach is adopted to identify key elements for optimising research output that is aligned with ethical practice; strengthening individual researcher capacity through digital writing support, facilitating research collaboration, and building leadership in research. These identified elements are intended to provide support for early career researchers to achieve optimal levels of motivation and career satisfaction. Early career researchers also need to consider the more personal elements that could impact their research career such as self-motivation, including the driving forces behind these decision-making processes. This requires self-reflection and introspection so that researchers engage more meaningfully with the complexities in research and leadership, as well as develop skills that would support communication and collaboration, both within and outside of HEIs in South Africa.

Practitioner Notes

1. Academics and early career researchers have had to become flexible and be prepared to work in disruptive environments, beset with volatility, uncertainty, complexity, and ambiguity (VUCA).
2. Much emphasis has been placed on how the COVID-19 pandemic shaped teaching and learning and impacted students in Higher Education.
3. We do however need to explore the multiple impacts of the pandemic on academics, postgraduate researchers, and early career researchers, in particular.
4. The COVID-19 pandemic provides unique opportunities to re-examine how the early career researcher can be supported through digital writing initiatives.
5. We argue for mentorship to become a priority to assist in the development of early career researchers, to guide them in becoming well-rounded academics within a changing higher education landscape, characterised by online teaching and learning, research, and remote working.

Keywords

Higher Education Leadership, Ethics, Digital Writing, COVID-19 Pandemic

Introduction

The COVID-19 pandemic provided unique opportunities to re-visit the teaching and learning space as well as the research agenda amidst a global public health emergency. In a pre-COVID world, teaching, research, administration, and community engagement, formed some of the traditional components of academic responsibilities. The apartheid past and complex history of South Africa, combined with the COVID-19 pandemic, proved to be challenging for many higher educational institutions to rapidly move to the online space (Badat, 2020). With lockdown restrictions in place and limited social movement, many academics had to rapidly adapt to a disruptive and chaotic work environment that included a migration from face-to-face teaching and learning to an online platform (Adedoyin and Soykan, 2020; Amrane-Cooper, 2020).

However, this emergency response to teaching and learning at the start of the COVID-19 pandemic, as described by Adedoyin and Soykan (2020), largely failed to consider the digital competencies and preparedness of both academics and students. While much has been written on the impact of the pandemic on students, and teaching and learning (Kofi Adotey, 2020), not enough emphasis has been placed on the research and leadership components of the academic's career. Mtshweni (2022) points to the unique challenges faced by South African academic institutions:

> In South Africa, the institutions of higher learning were already functioning under unfavourable conditions prior to COVID-19. Dominant and long-standing challenges in the sector included issues pertaining to a poor funding model for universities, a decline in state funding for tertiary institutions, fee increase contestations, racial inequalities in terms of student enrolment and staff recruitment, limited access to learning institutions and a slow pace of transformation (Mtshweni, 2022, p. 234).

The rapid move to emergency remote teaching and learning in South Africa resulting from the COVID-19 pandemic thus further exacerbated the challenges experienced by some students and historically disadvantaged higher educational institutions (Khoza, Khoza and Mukonza, 2021). Already battling with the impact that the apartheid past had on the sector, the pandemic increased the disparities across institutions and further widened the digital divide, as Faraj puts it:

> Even though we designed our system to be asynchronous, meaning students could log in and participate in their own time, connectivity was still a challenge. Some of our students could only log on late at night during off-peak hours. Others live in areas where connectivity is sporadic or inaccessible due to cost issues. Others struggled to get access to the internet at all. A small percentage of students also struggled for consistent access to electricity with which to power their devices (Faraj, 2020, para. 1)

Academic Editors

Section: Special Issue
Senior Editor: Dr Jo-Anne Kelder
Guest Editor: Dr Rebecca Johinke

Publication

Received: 6 October 2022
Revision: 5 December 2022
Accepted: 6 February 2023
Published: 22 February 2023

In addition to the considerable challenges facing students, and the extra work required to assist students during the pandemic, academics still needed to be mindful of maintaining their research. Learning to become a well-rounded academic takes time and involves formal training, learning, as well as reflective discussions with colleagues and leaders in the academic space.

These critical elements may not have occurred during the COVID-19 pandemic, or to the same extent as pre-pandemic, given the restrictions and urgency to focus on teaching and learning, and thus may have negatively impacted the development of early career researchers. This paper explores the complexities that are primarily involved in the research component of the early career researcher's work, and also sets out to identify the key elements that are required to achieve optimal levels of motivation and career satisfaction. A systemic lens is adopted in that the focus is on a holistic perspective, considering the diverse mental models of the multiple stakeholders (Aronson, 1996; Bui, 2020; Maai and Maharaj, 2004).

The typical academic's key performance areas may be centered on teaching, research, administration, and community engagement. Academics are also expected to engage in the supervision of postgraduate research projects, and some academics may also play an instrumental role in consulting or engaging with the wider community – depending on the context. This requires a concerted effort to develop the next generation of academics, hence the need to focus on the early career researcher. While research and leadership may be perceived as separate entities in the academic space, the blurring of lines becomes more evident when the academic attempts to progress through the academic ranks. Most institutions of higher education require that early career academics demonstrate growth in research, teaching and learning, community engagement, and leadership in order to be promoted to the next academic rank. Yet, research outputs, especially for the early career researcher, are not that easily attainable, as outlined in the next section.

Digital Writing

The pandemic provided unique opportunities to re-examine how the early career researcher can be supported through digital writing initiatives. Digital writing in this context would refer to online writing such as instant messaging, texting, posting comments, blogging, and using social media platforms such as Twitter, Facebook, and so forth. Additionally, platforms such as Google Docs allow multiple users to work on and edit a document at the same time, and therefore facilitating collaborative learning (Lin et al., 2016). While digital writing spaces did exist in a pre-pandemic era, COVID-19 forced institutions of higher education to transition to online platforms for teaching and learning (Kofi Adotey, 2020), as indicated earlier. Hence digital tools such as Zoom, Microsoft Teams, Google Meet, and WhatsApp became widely used platforms for learning and research, together with the use of asynchronous and synchronous online classes, however, the extent to which these platforms facilitated effective learning, remain contentious (Serhan, 2020).

It can also be argued that such tools allow for greater online communication and interaction between researchers, research supervisors, and students. Google Scholar as a search engine facilitates the use of open educational resources and this is allowing the researcher access to published literature (Marks and Le, 2017), without the academic needing to be physically present in a university space. All of these tools can influence and impact digital writing practices and can be used in all phases of research from hypothesis formation, literature review, data collection,

analysis, and reporting. It is equally important that researchers understand what constitutes good writing, in terms of the linguistic components, given that these norms are set by disciplinary and institutional expectations (Benzie and Harper, 2020; Law, 2019). This iterates the need for institutional support for research capacity development, especially in the area of digital writing for early career researchers. Such support could include online writing spaces, synchronous and asynchronous online workshops in research development, technical support for researcher engagement on online platforms, and the availability of seed funding for research, to name a few.

The Challenge with Remote Teaching and Learning

Apart from the research setting, the transition to online teaching and learning has impacted on all other areas of higher education (Filho et al., 2022; Wiggington et al., 2022). There was pressure on academics in particular to ensure that students received support with the transition to emergency remote online learning. Many academics had to, under great pressure and with limited time, learn to teach online, work with online platforms and software, set up and mark assessments online, and learn to communicate with students in a different way, given the restrictions. All of this took time and would have been particularly burdensome for more junior academics who may have had a higher teaching workload, or were still credentialing. This, no doubt, would have further impacted on the research component of early career researchers who may also have possibly been working on their doctoral studies. This would have added further pressure. Given that learning is a social experience, this would have been especially difficult for those who are accustomed to interacting in a physical working space, and suddenly would have been away from their colleagues, managers, and supervisors. The benefits of the digital writing space would have made a difference to provide support virtually for early career researchers. It is, however, important to note that differences in resources of the higher educational institutions, as well as the levels of preparedness and responsiveness, would have had an impact on how quickly they were able to adjust and cope with the changes.

We reiterate that institutions of higher education in South Africa are not all at the same level of development. While there was unanimous national support for the transition to emergency remote teaching and learning during the pandemic, historically disadvantaged academic institutions struggled to transition because of poor IT infrastructure, inadequate resources for students such as data bundles and availability of laptops (Kofi Adotey, 2020; du Plessis, 2022; Mtshweni, 2022; Faraj, 2020). Additionally, students were forced to vacate their residences on campuses and had to go back to their homes, where in some instances, these areas had little to no internet connectivity (Singaram, Naidoo, and Singh, 2022).

> A sudden shift or migration to online teaching can be a challenge. It has been noted that most students seem to lack the necessary skills in sharing digital content, usage of online collaboration platforms, software and programmes required for the studies. They also challenged with applying advanced settings to some software and programmes, which were not prominent during the face-to-face teaching time. These challenges therefore make it necessary to re- and upskill both students and lecturers to online teaching and learning (Alex, 2022, p. 37).

Eri et al. (2021) called for continued research to understand how Higher Education students experienced the change to online learning. Lessons from the COVID-19 pandemic can be used

to understand what the post-pandemic university should look like, as argued by Kaqinari et al. (2021). It is important to strive for effective online teaching, and for spaces conducive to creating social presence, connection, and flexibility (Lowenthal et al. 2020).

The Nature of Research

Research often occurs in a highly competitive environment, given the limited resources and the need to produce impactful research. We live in an ever-changing environment and the COVID-19 pandemic is one clear illustration of how a disease outbreak of such proportion can cripple affected countries' health systems and topple world economies. The role and value of research, specifically in the area of improved clinical care, novel therapies and vaccine development, could be understated as the world grappled with the SARS-COV-2 infections (Weintraub, Bitton, and Rosenberg, 2020). While world leaders, researchers, and health experts scrambled to identify innovative ways to control the pandemic and mitigate its impact on human life, the value of sound research to contribute to the existing body of knowledge is still necessary (Health Sciences Authority, 2020). Notwithstanding the continued challenges associated with the COVID-19 outbreak at a global level, we need to still examine the complexities of the research at other critical levels (Mourad et al., 2020). The COVID-19 pandemic had a profound impact on the lives of all people, but researchers were affected disproportionately (Rashid and Yadav, 2020). While COVID-19-related health research (such as clinical trials) was prioritised, even to the extent that research ethics committees or institutional review boards set up rapid review processes for such research, other areas of research may have been considered non-priority. This was despite the fact that urgent data was also required on how people coped with the pandemic and the associated emotional and psychological burdens. Likewise, laboratory-based researchers were able to continue with their research, given that they had minimal contact with people. These decisions were taken by the institutions of higher learning in response to the government-dictated lockdown regulations.

At a micro-non-emergency level, urgency in the research agenda still exists. It is important in the context of COVID-19 to understand how students, academics and communities are coping with the outbreak of disease (Ferrel and Ryan, 2020; Mdepa, 2020). Yet, this urgency to understand the context of COVID-19 could also be driven by other forces such as to increase research productivity, that is, where researchers engaged in research activities that were intended to simply improve output rather than focus on research outcomes or impact.

Such diversity in research experiences also meant that research output during the height of the pandemic was inconsistent where prioritised studies attracted more funding and journal publications. This inevitably would have affected early career academics (Rashid and Yadav, 2020), especially those involved in research that was considered a non-priority during the height of the COVID-19 pandemic. There may have also been inconsistencies in how higher educational institutions dealt with the performance of academics during the pandemic (Menon and Motala, 2021), especially in terms of research output. Some universities noted how postgraduate students were battling with their research, and how this impacted academics, with many students taking longer to complete their degrees. This brings into question what we reward, and the criteria used to assess performance, promotion, and promotability. In many instances, there is an expectation that academics need to be high performers in all areas.

Despite these challenges and inconsistencies, the set requirements for academic promotion in a post-pandemic setting appear to be skewed toward the number of publications, the impact factor of these journals, and the number of graduated students (Boutros et al., 2022). The nuances and challenges facing researchers during the pandemic appear not to be considered in the assessment of an academic's performance, meaning that the pre-pandemic criteria for academic promotion appeared to be unaffected from a promotion policy perspective (Kanyangale and Chikandiwa, 2022; Wiggington et al., 2020). As highlighted by Kupe:

> With regard to management and administration, universities should review their structures to be less bureaucratic and managerialist, and more adaptable, flexible and enabling to academics, researchers and students as they transition into less disciplinary-bound academic and research programmes (Kupe, 2020, para. 22).

All of these highlighted issues point to the complexities facing researchers in general but more importantly, the early career researcher, who needs additional support and guidance. Part of this guidance is the need to reiterate the set standards for research, and the awareness of research ethics and scientific integrity, as illustrated in the next section.

Setting Standards for Research Practice

We identify several critical aspects on which early career researchers may need training. To this end, a re-visit of basic ethical principles in research is much needed (Zhang, 2020). Research ethics can be defined as standards set to determine acceptable and unacceptable researcher behaviour (Creswell and Creswell, 2018; Fox et al., 2008). Acceptable behaviour includes researcher competence, integrity, compliance with ethical and legal requirements, and responsibility. Research should have benefits (could be direct or indirect) and these benefits should outweigh any foreseeable risk or harm (non-maleficence), and identify measures to mitigate any foreseeable risks, should these exist. There should be justice in the selection of study participants (avoiding discrimination and unfairness, or excluding individuals on the basis of race, creed, gender, religion or socio-economic situation). Care should be also taken to ensure that the benefits and burdens of research are equitably distributed (e.g. recruitment of women in the child-bearing age group from low socio-economic geographical areas into clinical trials that investigate the use of contraceptive devices). Equally important, all research projects involving human participants, animals, or the environment should be approved prospectively by a registered research ethics committee or institutional review board (Saxena et al., 2019; Bain et al., 2018).

These core ethical standards remain the same during and in a post-pandemic setting. There is a need to ensure that research participants are not placed at risk during data collection, and to balance data collection with privacy rights and protection, particularly for vulnerable and marginalized communities/populations (Saxena et al., 2019). Similarly, the challenge with consent is not limited to the inability to physically get verbal and written consent from participants, but is also heightened by the need to show respect for participants; ensure that their involvement is justified; and ensure that a feedback mechanism is built into any research process. Limiting infections and protecting research participants, research teams, student researchers and proximal role players should remain a priority in the research agenda. For this purpose, online interactions for data collection are encouraged but care should be taken so that participants' rights and privacy are not compromised (Braun et al. 2020). It should be noted that while social media

platforms are in the public domain, there could be restrictions and privacy stipulations in accessing potential participants when using these platforms for research purposes, for example, when recruiting research participants or conducting research using Facebook as a social media platform.

From a COVID-19 lens, this means that researchers should attempt to prioritise research that could translate into positive societal gains, where possible. Such efforts would also align with community expectations of research outcomes, as illustrated by the San Code of Research Ethics (2017), whereby the San community in question developed a guide for researchers conducting studies in their communities. The San Code of Research Ethics highlights ethical principles such as honesty, respect, justice, and fairness, and caring for the community, where there are mutual benefits for the researchers and the affected communities (Schroeder et al., 2019). However, apart from the actual environment where research is conducted, there is also a need to consider the planning, conceptualisation of the study, and report writing phases of the research. As illustrated earlier, inevitably, all aspects of the research process were affected by the pandemic. The value of good communication through writing cannot be overstated as this is a necessary requirement for research output in general.

Other Systemic Challenges for Early Career Researchers

Higher education institutions in South Africa have in recent years, been shaken by various events in the broader environment, which has substantially increased the volatility, uncertainty, complexity and ambiguity (VUCA) that academics face (Waller et al., 2019; Murugan et al., 2020), and that have further illustrated how brittle, anxious, non-linear, incomprehensible (BANI) the situation has become through the COVID-19 pandemic (Mullolly, 2022).

The academic has thus had to become flexible and be prepared to work in uncertain environments. The annual student protests that rock South African Higher Educational Institutions are but one example. Another example of disruption is the unstable electricity supply crisis in South Africa, resulting in constant loadshedding, which leads to customers not having electricity for 2-hour slots, sometimes twice or thrice a day, in order to reduce consumption so that the grid does not collapse. In line with considering the VUCA world that we find ourselves in, institutions will have to think carefully about the future, especially given the electricity crisis. If remote or hybrid learning becomes the norm, then this crisis certainly will present a serious threat to online teaching and learning. Even abroad, many countries are faced with rising costs and an energy crisis. The value of higher education may also be coming under question, especially if there is a disconnect between what is being taught and what the ever-changing world of work requires.

Eri et al. (2021) in their research on digital resilience, suggested that there be redesign of courses and their delivery, professional development programs for staff to develop digital competencies, and training to help them better deal with the isolation that students experienced. Eri et al. (2021) further argued that the pandemic was especially hard for students in higher educational institutions. While much emphasis is still placed on how the pandemic shaped teaching and learning, we do need to explore the multiple impacts of the pandemic on research, postgraduate researchers and their research, academics at various levels and their research, and the shift to digital writing. Valuable in-person interactions at institutions which were lost during the height of the pandemic, could have had a negative impact on idea generation, networking, and even

socialisation through immersion into the work context. It is, however, important to note that once academics were able to become more adaptable and resilient, they became more open to being immersed in digital writing and the online space to facilitate meetings with students and staff, for various academic and research activities, as highlighted by Mullen:

> In the pandemic, educational institutions are heavily relying on distance education, many with depleted resources. Nonetheless, visibility needs to be given to mentorship and supports to faculty members who provide high-quality online guidance in times of crises, pandemics, and social distancing (Mullen, 2020, p. 154).

With respect to research specifically, academics were better able to engage research students that they supervised through screen sharing, and enabling recordings which allowed students to listen to feedback, and not have to be more focused on taking notes. Additional benefits centered on having students save time on travel, not having to print out unnecessarily, and be more efficient in working with comments and track changes, through collaborative tools like Google Docs, as indicated earlier. In a similar vein, researchers may have experienced the same, and would have also been able to attend virtual conferences, and even possibly had access to international collaborators, and experts in the field, which may have been challenging pre-pandemic. As we shift from the emergency mode in higher education, we can further explore how to continue embracing and capitalising on digital writing.

Not all researchers and academics may, however, possess the necessary digital competencies and adaptabilities to thrive in the new world. It is critical that leaders in higher education ensure that staff are given the necessary training and support, especially in a developing country context. Consideration will have to be focused on whether early academic researchers have the necessary equipment, connectivity, space, and know-how to thrive in the digital world. From an individual perspective, early academic researchers need to become adaptable and resilient. The impact on research has probably not been fully grasped but student and even staff research in the social sciences, for example, was affected in that students could not directly engage respondents. Data collection had to be done using online platforms, e.g. conducting interviews using Zoom or Skype, and using on-line questionnaires, as illustrated earlier. This again signifies how rapidly the research space shifted.

Research Collaboration and Mentorship

Researchers also need to work on their online presence – much emphasis is placed on maintaining various profiles and working on scores – Google Scholar, ResearchGate, Orchid, Scopus, ResearcherID, Publons, LinkedIn, among others.

Researchers need to be able to work with diverse stakeholders. This is where the element of collaboration comes in and where digital writing can be used to facilitate networking. Bear in mind that collaboration may not necessarily translate into individual recognition, but such work may however be of immense impact (Berry, 2012). As argued by Mattingly and Marrs (2021, pp. 14-15), “collaboration also emphasises process over result.” Collaboration requires networking and time, and possibly even travel. Kaqinari et al. (2021, p. 18) indicate that “universities, as flexible learning institutions, should start learning from each other.” There is also emphasis on facilitating interdisciplinary, transdisciplinary, and multidisciplinary research, and especially since reward systems, in many cases, have been slow to adapt.

A systemic awareness is important – understanding the holism, big picture, complexity, and how the impact of interactions of diverse stakeholders impact one's research (Aronson 1996; Bui 2020; Maai and Maharaj, 2004). The academic world is also beset with politics (Searls 2009) and the researcher may be at the receiving end – this emerges with time in the organisation. Attempts at pursuing an individual research agenda may or may not be appreciated – researchers require support, especially from the line manager and discipline. This may be at odds with the teaching role – researchers could find that teaching workloads (Tight, 2011) could negatively impact their research, or that attempts at working on their own research could be considered selfish. Limitations may be imposed by the institution in terms of how much freedom there is, for instance, in choosing postgraduate students or even in recognising the contribution of the researcher.

We thus argue for mentorship to become a priority, to assist in the development of early career researchers, especially given the multiple complexities that we have outlined. There must be a commitment from the institution to ensure that it becomes formalised, otherwise, it will be ad hoc, and the mentee may be left stranded, which is defeating the purpose. Consideration must be given to how mentors will be selected and rewarded, especially given the time that it involves. Mentors need to demonstrate that they themselves are versatile and can contribute towards further strengthening individual researcher capacity through developing digital writing capabilities for the mentee and are in a position to engage effectively in the online social space. Formalised mentoring will lead to various opportunities for all. There should be policies at the national level, but it is important that they be aligned to the changing world of academia, and the demands that academics and early career researchers face.

Leadership in Research

Early career researchers need to understand leadership and management (Daft, 2018; Shriberg and Shriberg, 2011), and how it applies to their development. Researchers may engage in management when they apply for grants, manage grants, and engage in student supervision (Vale, 2010; Berry, 2012). Management typically involves planning, organising, and control, focusing on budgets and the bottom line and staffing (Daft, 2018; Shriberg and Shriberg, 2011). Leadership on the other hand, is future-oriented and involves realising your dream (Daft, 2018; Shriberg and Shriberg, 2011). This is where one will perhaps strive to realise a vision – this is critical, especially for early career researchers. Researchers should be able to outline their goals in terms of a one-year, five-year, and ten-year plan (Berry, 2012; Searls, 2009; Tight, 2011). While this strategic exercise is important, bear in mind that plans may need to change as a result of changes in the environment or self (personal and/or professional).

Early career researchers also need to consider the more personal elements that could impact their research career. Research involves hard work and sacrifice (Berry, 2012; Searls, 2009; Vale, 2009) – this will require resilience, perseverance, and emotional intelligence. At some stage, researchers may find that they need to reconsider their choice of career (Searls, 2009). Some may choose to stay in academia but could be presented with the option of pursuing academic leadership (Berry, 2012; Searls, 2009) or possibly pushed that way – this entails quite a bit of administration, which may see research suffering. There is often an opportunity cost. Researchers may also decide to leave to pursue a career in industry (Searls, 2009).

It is critical to consider the element of motivation (Daft, 2018; Shriberg and Shriberg, 2011) – let us start with the question – *why are you considering this direction*? This question alone could bring up so many answers. Let us then ask – *do you want to be a researcher, or is it just something that you must do*, because it is a Key Performance Area (KPA). Early career researchers will need to consider what motivates them – if it is only about extrinsic rewards (e.g. pay, promotion) alone, then they may end up becoming demotivated. Intrinsic motivation is key to achieving high motivation levels and career satisfaction.

The researcher may also be in charge of a student lab or lead a project involving diverse stakeholders. This calls for team leadership whereby the researcher needs to focus on the task (e.g. writing a paper or supervising student projects) but also on the person (Daft, 2018; Shriberg and Shriberg, 2011). Here again, digital writing presents opportunities to form new partnerships for collaborative research, grants, and other academic activities. Working in teams may result in conflict which could be attributed to a lack of resources or even a lack of understanding as to "who does what." Being able to draw on different leadership styles will be critical to ensuring success (Daft, 2018; Shriberg and Shriberg, 2011). Early career researchers should also consider aspects such as self-motivation, the need for self-refection, and introspection as part of research capacity building.

Conclusion

The COVID-19 pandemic has shaken up higher educational institutions across the globe. We examined how early career researchers may have been impacted, especially given the transition to emergency remote online teaching and learning, and being away from the institution and the usual social space. There is further pressure on early career researchers given that blended learning is gaining momentum (Kofi Adotey, 2020) and the reality that online education is here to stay (Yan, 2020). Early career researchers face multiple complexities in the workspace, where Yan argues:

> With this new reality, some remain clueless and ill-prepared; some hope for a silver bullet or "magic button" for getting online education done, while others are keen to reimagine the future of higher education. Diverse as these reactions and attitudes may seem, what they suggest is that COVID-19 is, in fact, creating both promises and pitfalls for online teaching and learning in the higher education sector (Yan, 2020, para. 2)

There is thus, a need to provide support for them to develop competencies in digital writing, given the shifting demands and complexities of academia. It is important that these people receive mentorship to guide them in becoming well-rounded academics, in the different spheres of their work, within a changing higher education landscape, characterised by online teaching and learning, research, and even remote working.

Further, we examined the effect of the pandemic on research and ethics, and not only on teaching and learning. We also explored digital writing in the context of the pandemic. The paper highlighted the need and identified strategies to provide digital writing support for early career researchers in higher educational institutions, especially given the recent challenges relating to the COVID-19 pandemic. Overall, researchers need to comply with ethical research practices and there is a need for innovation in research so as to build and strengthen research capacity. At the

same time developing leadership in research could be facilitated through the acquisition of skills in research management. We presented recommendations to strengthen individual capacity, foster research collaboration and mentorship, and develop leadership in research.

Conflict of Interest

The author(s) disclose that they have no actual or perceived conflicts of interest. The authors disclose that they have not received any funding for this manuscript beyond resourcing for academic time at their university.

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