Unlocking the Potential of Hybrid Learning: Tourism Student Voices in South African Universities of Technology

Pavla P. Mokoena and Chris Hattingh
Department of Tourism and Events Management, Cape Peninsula University of Technology, South Africa

mokoenap@cput.ac.za
hattinghch@cput.ac.za

Abstract: This article examines the impacts the pandemic learning environment had on student learning and wellness, and how rethinking higher education (HE) design could bolster the improved student well-being. In the wake of Covid-19, academia is searching for some "normalcy" which requires a critical review of the suitability of current structures, as policy design struggles with the possibilities of a hybrid approach to pedagogic delivery. The body of knowledge on blended/hybrid learning design requires the student voice, in cold face experiences of pandemic-induced academic evolution, to get closer to discovering a model that benefits both teaching and learning. The unearthing of possible unrealised disruptions to the learning environment, affecting social, personal and cognitive presence. A sequential explanatory study that included the collection of quantitative survey data, and qualitative focus group interviews was conducted. The census enquiry of tourism management students at three universities of technology in South Africa was concluded online, as per remote learning requirements at the height of the pandemic. Study results indicate that remote learning during the Covid-19 pandemic impacted negatively on student learning and mental health at universities of technology (UOTs) in South Africa. Student data indicated that even through strict pandemic regulations, the university campus life morphed, and did not die. Students gravitated towards parts of the campus considered soothing, with proper internet access, arguing for a holistic, sustainable university architecture that bolsters learning and student support. HE institutions need to further consider the role and design of university architecture for hybrid/blended learning, with a user-focused perspective.

Keywords: Covid-19, Hybrid Learning, Student Well-Being, Sustainable University Architecture, Tourism Management

1. Introduction

The term environment is defined as "the total surroundings and conditions in which something or someone lives or functions" (Aheto and Cronje, 2018). In an educational context, the learning environment defines the boundaries, resources, conditions, and practices within which students have opportunities to enhance their knowledge, skills, and attitudes (Aheto and Cronje, 2018). This includes complex issues of widening access for students in higher education (HE), as it regards internal and external factors to the university systems. The policy-driven mandate of HE in South Africa has been to help widen access (Council on Higher Education, 2010; Mzangwa, 2019). Traditionally, South African HE relied on face-to-face, contact based learning models (ReadLab, 2022). The Covid-19 pandemic, however, disrupted this landscape, compelling institutions to embrace online learning during the academic year 2020/2021 when academic programs worldwide came to a standstill. Institutions of higher learning implemented online learning to continue the academic programme (DHET, 2020). This rendered hybrid/blended learning a critical consideration in situations of crisis management.

As a result, the learning environment for HE students was then delineated within two categories: first, the academic environment which consists of university buildings and spaces in which to socialise and learn. The second, the home environment, which is considered as the support basis for learning outside of the confines of the university space, the brick-and-mortar definitions (Xaba, 2021).

The education transformation agenda in South Africa has looked at curriculum reform (Council on Higher Education, 2010) with some successes in access to HE and support mechanisms in addressing issues of inequality in the HE spaces (DHET, 2020). The rapid acceleration of the Fourth Industrial Revolution (4IR) by the pandemic has raised questions about the impact on the transformation agenda within universities. The disruption caused by the pandemic has led to considerations about whether the adoption of blended/hybrid learning could potentially reverse the progress achieved in the transformation agenda (Naidoo and Cartwright, 2020; McCain and Evans, 2022). Holistic studies that examine dynamic interactions and processes within the classroom setting, particularly during disruptive times like the pandemic, are essential (Closs et al., 2022). This study aimed to elucidate various complexities and opportunities associated with the learning environment that have an impact on student well-being, providing valuable insights for educators and UoTs offering tourism studies.

2. Suitability of Learning Environments for Effective Student Engagement

Bond et al, (2020) explain student engagement as the "energy and effort" students employ within their learning community, for attaining knowledge. They further state that:

> "It is shaped by a range of structural and internal influences, including the complex interplay of relationships, learning activities and the learning environment. The more students are engaged and empowered within their learning community, the more likely they are to channel that energy back into their learning, leading to a range of short- and long-term outcomes, that can likewise further fuel engagement" (Bond et al, 2020).

Three dimensions of student engagement, namely behavioural, emotional, and cognitive (Bond et al, 2020), highlight the link of student engagement in all aspects to student success. The environment where this engagement takes place becomes paramount. In an online community of inquiry, the structure and dynamics differ significantly from those of a traditional learning community (Closs et al., 2022). The social presence aspect of the Community of Inquiry framework acknowledges that active engagement is essential for students to feel connected and involved in the learning process (The Community of Inquiry, n.d.). This active engagement not only promotes a sense of community but also contributes to student well-being. When students are actively engaged and have a strong social presence, they feel connected to their peers and instructors, leading to a positive learning experience (Garrison & Akol, 2013).

2.1 Mental Well-Being as a Focus for Student Academic Success

An increasingly critical discussion in the HE space has been the matter of student mental well-being (Warwick et al, 2008; McBride, 2019). Discourse on mental well-being has over the years focused on varying key areas, including natural space for improved well-being (Lau and Yang, 2009), physical classroom design impacts on well-being (Asino and Pulay, 2019) and a sense of community (Fiock, 2020) for enhanced learning. More recently, the emotional demands that remote learning has placed on university students (Naidoo and Cartwright, 2020; McCain and Evans, 2022) have been receiving attention. Certain initiatives within educational institutions such as purposefully including natural spaces for human mental health have become critical (Warwick et al., 2008). Where

2.2 The Community of Inquiry (COI) Framework

The initiatives for academic success can be achieved through the implementation of support mechanisms that foster increased interactions amongst peers (Hrastinski, 2019), that allow students to have a safe space to get emotional and mental support. These connections are guided by concepts of the COI framework, which supports connection and collaboration among students (Garrison and Vaughan, 2008), and promotes reflection for learning (The Community of Inquiry, n.d.). In evaluating theories which have been applied in blended learning research (Garrison and Akol, 2013; Graham, 2013, Fiock, 2020), the COI framework is most often used. Three key elements of the COI framework include (The Community of Inquiry, n.d.; Garrison and Vaughan, 2008):

- Social presence – the ability of students to foster relations with the community, and how well individual students can project their personalities within the environment, thus offering opportunities for peer collaboration.
- Teaching presence – providing structure, facilitation and direction on the educational experience is critical, making the role of the lecturer critical for blended/hybrid classes.
- Cognitive presence – the progression of a collaborative learning process which is framed by following the process from problem identification, exploration of the problem, and integrations of ideas, to a resolution. That is the continuous process of information exchange, and testing concepts, leading to knowledge creation (Vaughan, 2010; Bryan and Volchenkova, 2016).

The elements of the COI framework impact student well-being when they are disrupted. For instance, when there is limited social presence in the online learning environment, students may feel isolated and disconnected from their peers and instructors (Closs et al., 2022). Where there is a lack of teacher presence, students may struggle to receive necessary guidance and support, which can lead to increased stress and anxiety. Similarly the the challenges related to the learning environment including limited cognitive presence can hinder students' ability to process and understand course material effectively, impacting their overall well-being (Celestino & Yamamoto, 2020).

The Covid-19 pandemic impacted negatively on learning environments, forcing the closure of physical spaces of most industries and services, which were considered as spaces that offered student interactions (South Africa, DoH, 2022). The most effective approach for this study was to gauge individuals' perceptions of their learning experiences. This method was chosen to address the overarching question of whether alterations in learning environments and the fundamental elements shaping these environments had significant impacts on student well-being (South Africa, DoH, 2022). The learning environment is considered a critical factor in this article, and there is a need to understand if the support mechanisms put in place to assist with academic support were effective (Bozalek and Boughey, 2012).

3. Study Methodology

The Covid-19 pandemic had an adverse effect on the services industry, including tourism. The closure of the industry impacted institutions of learning where tourism studies are offered, thus impacting quality of learning. The study followed the sequential explanatory design, considered a mixed-method approach (QAUNT-qual) to collect data pertaining to aspects around students' experiences of their learning environment. Quantitative data was collected and analysed, followed by a qualitative enquiry, probing further on data collected from the first phase of data collection (Creswell, 2014), to provide depth of data collected (Wakelin-Theron et al, 2019).

A census enquiry of undergraduate tourism programmes student cohorts was applied. An online questionnaire was sent to specific academics at the participating UoTs to assist in distributing the link to students. The *quantitative research – self-administered online survey* included open-ended and closed-ended questions. The online survey tool used a Lime survey for the study. The survey was sectioned into different sections for focus areas. The flexibility and functionality of the survey instrument made it a tool of choice for the study for remote feedback based on a long survey. Analysis of the quantitative data from the questionnaires was conducted with the SPSS 28 analysis software. Qualitative data was analysed using the Atlas.ti 22 programme. Data was triangulated, and the findings are presented in the following discussion.

4. Results and Discussion

A total of N=260 responses were received from tourism management students, with, 52.7% reponses from from UoT1 (Cape Peninsula University of Technology, CPUT), 30.4% from UoT3 (Tshwane University of Technology, TUT), and 16.7% from UoT2 (Central University of Technology, CUT). Surveys, conducted remotely during complete Covid-19 lockdown periods, revealed instances of partially completed surveys. A missing value analysis, following the guidelines of Manly and Wells (2015), confirmed that the missingness was completely at random. Consequently, the data has been reported accordingly. The gender distribution of participants indicated a large difference in the number of participants, with 186 (71%) female and 75 (29%) male participants. The category 21 to 25 years was the largest with 138 (53%) responses, followed by the 18 to 20 year-group with 95 (37%) participants. Category 26 to 30 had only 21 (8%) respondents, and <18, as well as >30 categories were made up of 3 (1%) participants respectively. In this study, another question focused on access students had to learning, and the most prevalent source (84.7%) of academic support was The National Student Financial Aid Scheme (NSFAS).

4.1 Perceptions and Preferences of the Online Learning Environment

UoT students' learning environment in this study was delineated as the campus/classroom and home (place of residence during the study) environments as data was collected during the height of the pandemic. The enquiry revealed that on average 90 per cent (CPUT= 96.3%; CUT=93.2%; TUT =88.6%) of students preferred to live close to their university, even when attendance was purely online classes, due to lockdowns. In contrast to this finding, although students lived closer to their university of study, there was a strong preference for students to study at home, and not on campus (54.5% agree and 27.3% strongly agree). Therefore, assumptions could be made that either students did not have suitable options for access to online learning from their learning environments, thus the need to migrate to the metros even for online learning was critical. This builds a picture that social presence although a critical element for learning, will require to be curated by students, for interactions to be effective.

Further enquiries about the learning environment were linked to students' opinions of what they considered to be a suitable learning environment. Results in this aspect revealed that accessibility of online and campus-based resources and facilities was a critical element. Students indicated having received great support from the participating UoTs in this regard but lamented the availability of facilities at critical times. "*…The wifi, it depends*

on what place (sic) *you at like what section of the campus you are at. So, it's also a fine (sic) and then sometimes you find good* (sic). *You have to go to the* (sic) *is to attend the class or write an online test. Then the library is closed. Like, how is it closed when students are still like learning that the semester is not even finished, but the library is closed"* (5:31 ¶ 114 in TUT Focus group interview). A critical point, noting that in a developing countries access to learning resources, is still an immense challenges.

On the issue of online learning, the ability to access learning was based on the availability of online resources. In the South African context, challenges with connectivity are not only limited to internet connectivity facilities but also the availability of electricity. Access to internet fibre connectivity is not widespread in the country, thus students are limited to expensive options like cell phone data. Results in Table 1 represent the dire situation of challenges with access to university-sponsored online connectivity facilities like virtual private networks (VPN). In 2020, UoTs and HE in collaboration with cellular network providers in South Africa, zero-rated academic institutions' websites to assist students gain access to universities' websites for free. Data in Table 1 below suggests that the initiative did not yield the desired results. As per the foundations of the COI framework, the continuous process of information exchange, and testing concepts, leads to knowledge creation (Vaughan, 2010; Bryan and Volchenkova, 2016). Where this process is disrupted, challenges could occur.

Table 1: Frequency of availability of resources for online learning and connectivity (N=145)

Frequency distribution	N/A	Never	Seldom	Sometimes	Often	Always
Electricity (when not load shedding)	2.8	5.5	2.1	33.8	24.8	31
Fibre network	12.4	10.3	8.3	30.3	18.6	20
Personal cell phone data	0.7	4.8	9.7	35.2	24.1	25.5
University provided data	0	5.5	0	12.4	26.9	55.2
VPN	26.2	37.2	7.6	18.6	4.1	6.2

As a result of connectivity challenges, students missed online sessions. On the question of interactions with peers, a small number of students pointed to preferring to speak to classmates, to find out from them what was done in class in situations where they missed online sessions (27.8% = CUT; 17.8% = TUT; 8.5% = CPUT). In contrast, students preferred listening to or watching class recordings of missed sessions.

4.2 Student Support and the Physical Learning Environment

Regarding support services of facilities available to students during remote learning, responses here were also articulated as a combination of perceptions and experiences regarding remote services and on-campus facilities. This pointed to a general use of physical campus facilities during remote learning and the perceptions of students on the user-friendliness of campuses. Students used a variety of services at their disposal as multiple on-campus facilities as well as remote support services. Students maintained they used services online or on-campus during the remote learning period, with on-campus services including the library, general campus grounds, computer laboratories and the calm surroundings for a quiet time. One respondent said:

> *"I have this other section that I really like the most …which is the dam, the dam side. It's very peaceful. So there's this side where I usually sit with (sic) a bench. And like, you can actually kind of think of everything"* (5:45 ¶ 143 in TUT Focus group interview)

This was a profound statement taking into consideration that remote learning could have exacerbated the situation of isolation for those in university residences (Mthethwa & Luthuli, 2021) and that the home and campus environments are not necessarily built to reduce or mitigate issues of mental health. Another critical element essential for meaningful learning is teacher presence.

Two of the respondents from each participating UoT were student mentors. One student mentor respondent indicated how she used online counselling facilities, after a traumatic experience:

> *"For me, it's the flip side of the coin because I provide some of these services. I am a departmental tutor and mentor. I tutor first-, second-, and third-year students and also provide mentoring. My services*

> *include online extra classes and career guidance, to name a few. However, last year I used an online counselling service, which was extremely beneficial because I needed support. I would rate that service an 8 because I received all of the assistance I required, the specialist was quite professional and had everything organised for each session, it felt safe to share, and I was able to recover from the trauma I experienced" (5 p 1 in Abe_CPUT)*
>
> *"I actually use the library tool, but not, not most often I use the library and since I'm actually part of the, student mentors,* (sic) *I usually use the computer labs in building Six of which by not basically I'm using them (sic), but I actually help students who have access to them"* (5:40 ¶ 127 in TUT Focus group interview)

This was important to note that student support in addition to suitable learning spaces requires attention in design and ease of access as they play a role in the learning process (Celestino & Yamamoto, 2020). The results also point a critical picture of academic and student mentors and their mental well-being. Student mentors, given the pressure of offering academic assistance services to departments, while being students themselves must be strongly considered. Mental health is an issue that has been recorded in academic papers (Council on Higher Education, 2010; Henning et al., 2019) for which innovative solutions are required in HE (Naidoo & Cartwright, 2020). As South African HE was traditionally, designed more as contact focused (ReadLab, 2022), the physical resources play as much a role in students' learning process as the teacher presence.

4.3 Sustainable Online Spaces for Mental Well-Being

The discussions on student mental well-being in the HE space have been a matter of academic investigation for some time (Warwick et al, 2008; McBride, 2019). More recently, research has shifted its focus to the emotional challenges students face as a result of remote learning (Naidoo and Cartwright, 2020; McCain and Evans, 2022). This study further evaluated issues of learning and access, and mainly evaluated students' learning preferences based on their reflective experiences. As per the definitions of the COI framework, a strong social presence allows students to feel connected to their peers and instructors, leading to a positive learning experience. In the constantly changing HE environment, societal needs, and technological advancements, effectiveness will be evaluated based on systems that offer the best support for students and their developmental processes. The element of teaching presence in the community of inquiry means that instructors play a crucial role in facilitating student engagement, providing guidance, and creating a supportive learning environment.

Forms of synchronous and asynchronous tools that were used for academic activities during remote learning were evaluated to determine which offered the best outcomes. The results in Table 2 highlighted a preference for formal, or synchronous forms of communication during remote learning. Preferences for communication to be sent via the Learner Management System (LMS) scored the highest with 42.5% preferred and 30.8% strongly preferred responses. This was followed by the preference for communication to be done through the class WhatsApp group (38.4% = preferred and 17.1% = most preferred), with direct e-mail with the lecturer scoring the highest with 30.1% preferred and 19.9% most preferred responses. Interestingly, preference for information and contacting the lecturer directly on WhatsApp scored lower with students, which is in line with Martin and Bolliger's (2018) findings, as well as research by Saidi et al, (2021), indicating that regarding formal tuition, students were inclined to lean towards formal structures of communication like the LMS and emails from the lecturer, than asynchronous platforms, where group coordinating activities were more effective on these platforms (Mpungose, 2019).

Table 2. Learning style preferences related to remote learning (%, N=145)

Preferred forms of communication during remote learning						
	N/A	Least preferred	Less preferred	Neutral	Preferred	Most preferred
Prefer info from LMS	2.1	3.4	4.1	17.1	42.5	30.8
Prefer info in class WhatsApp group	3.4	11.6	19.9	28.8	28.1	8.2
Prefer to contact lecturer on WhatsApp	6.2	15.8	15.1	25.3	26.7	11.0
Prefer class WhatsApp	0.0	9.6	8.9	26.0	38.4	17.1
Prefer direct lecturer-mail	3.4	6.2	12.3	28.1	30.1	19.9

As Mshayisa (2022) also found, the more informal platforms in blended lessons were preferred for group collaborative work, while the more formal platforms were preferred for instruction and communication from lecturers.

5. Conclusion

Challenges experienced during remote learning were linked to limited usage of university facilities, issues of connectivity for access to learning, and lack of social interaction, leading to negative impacts on students' well-being. Transforming education is a key element of the 2030 Agenda for Sustainable Development (United Nations, 2015). In this agenda, education plays a unique role in the improvement of knowledge and skills, in addressing environmental issues, sustainability, and human well-being (Bauer et al, 2021). Interdisciplinary approaches are required for this process to succeed (Cilliers, 2019). A holistic approach to learning and student support goes beyond what has been provided regarding academic performance and student well-being. UoTs would need to further consider the role and design of university architecture for hybrid/blended learning. The study results emphasised the importance of remote WIFI access and the value students place on connected spaces for remote learning. University connectivity is limited to areas which have been considered high traffic such as boardrooms and classrooms, while lacking in outdoor spaces, where students require the resource, creating a challenge with the learning process. A critical element of the well-being of those appointed in tutoring and mentor positions is not given attention, as they work in high demand environments. The results of the study, highghlit serious gaps in support planning of the learning environment at UoTs. In conclusion, this paper makes a noteworthy contribution to the literature on blended and hybrid learning models. In support of recommendations by McGhie (2012) made an argument for universities to consider functional sustainable spaces that offer well-being support for students. In the post-pandemic university space, this argument is even stronger. The architecture of university physical and online spaces must be critically evaluated for the academic success and mental well-being of students, especially in developing economies like South African where university architecture for hybrid and blended learning is not fully developed.

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References

Aheto, S.P.K. and Cronje, J. (2018) "Digital device ownership and learning environment preferences of students in South Africa and Ghana", *Turkish Online Journal of Distance Education*, Vol 19, No, 3, pp 93–111.

Asino, T.I. and Pulay, A. (2019) "Student Perceptions on the Role of the Classroom Environment on Computer Supported Collaborative Learning", *TechTrends*, Vol 63, No 2, pp 179–187.

Bauer, M., Rieckmann, M., Niedlich, S. and Bormann, I. (2021) "Sustainability governance at higher education institutions: equipped to transform?", *Frontiers in Sustainability*, Vol 2, April, pp 2019–2022.

Bond, M., Buntins, K., Bedenlier, S., Zawacki-Richter, O. and Kerres, M. (2020) "Mapping research in student engagement and educational technology in higher education: a systematic evidence map", *International Journal of Educational Technology in Higher Education*, Vol 17, No 1, pp 2–30.

Bozalek, V. and Boughey, C. (2012) "(Mis)framing Higher Education in South Africa", *Social Policy and Administration*, Vol 46, No 6, pp 688–703.

Bryan, A. and Volchenkova, K. (2016) "Blended learning: definition, models, implications for higher education. Bulletin of the South Ural State University series 'Education. Education Sciences', Vol 8, No 2, pp 24–30.

Celestino, E. and Yamamoto, I. (2020) "A framework proposal for blended type discipline creation". In Alves, L., Junqueira, L., & Padula, R. (eds.). *Learning management: an analytical approach for teaching methodologies associated with cognitive skills*, Hershey, IGI Global, pp1–17.

Cilliers, E. (2019) "Reflecting on green infrastructure and spatial planning in Africa: the complexities, perceptions, and way forward". *Sustainability (Switzerland)*, Vol 11, No 2, pp 1–17.

Closs, L., Mahat, M. and Imms, W. (2022). "Learning environments' influence on students' learning experience in an Australian Faculty of Business and Economics", *Learning Environments Research*, Vol 25, No 1, pp271–285.

Council on Higher Education. (2010) "Higher education monitor: access and throughput in South African higher education: three case studies". Pretoria, South Africa, Vol 9, pp 33–181, [online], https://www.che.ac.za/sites/default/files/publications/Higher_Education_Monitor_9.pdf .

Creswell, J. (2014) *Research design: qualitative, quantitative and mixed methods approaches*, Sage Publications Inc, Thousand Oaks.

Department of Health, South Africa [DoH], (2022) "Minister Joe Phaahla: repeal of regulations regarding Covid-19 pandemic and monkey-pox, 23 June 2022", [online], https://www.gov.za/speeches/statement-minister-phaahla-repeal-regulations-covid.

Department of Higher Education and Training, South Africa [DHET], (2020) "Students' access to and use of learning materials: survey report 2020", Government Printers, Pretoria.

Fiock, H. (2020) "Designing a Community of Inquiry in Online Courses". *The International Review of Research in Open and Distributed Learning*, Vol 21, No 1, pp 135–153.

Garrison, D. and Akol, Z. (2013) "Theoretical foundations and epistemological insights of the community of inquiry. In Educational communities of inquiry: theoretical frameworks, research and practice". *IGI Global*, pp 1–11.

Garrison, D. and Vaughan, N. (2008) *Blended learning in higher education: framework, principles and guidelines*, Jossey-Bass, San Francisco.

Germaine, R., Richards, J., Koeller, M. and Schubert-Irastorza. (2016) "Retention initiatives for working adult students in accelerated programs" In Lo, A. W., Reeves, J., Jenkins, P., & Parkman, R. (eds.), *Journal of Research in Innovative Teaching*, Vol 9, No 1, pp 19–29.

Graham, C.R. (2013) "Emerging practice and research in blended learning". In Moore, M. (ed.). *Handbook of distance education*, pp 330–350, Routledge, New York.

Henning, J.A., Ballen, C.J., Molina, S.A. and Cotner, S. (2019) "Hidden identities shape student perceptions of active learning environments". *Frontiers in Education*, Vol 4, November, pp 1–13.

Hrastinski, S. (2019) "What do we mean by blended learning?", *TechTrends*, Vol 63, No 5, pp 564–569.

Lau, S.S.Y. and Yang, F. (2009) "Introducing healing gardens into a Compact University Campus: Design natural space to create healthy and sustainable campuses", Landscape Research, Vol 34, No, 1.

Manly, C.A. and Wells, R.S. (2015) "Reporting the Use of Multiple Imputation for Missing Data in Higher Education Research". *Research in Higher Education*, Vol 56, No4, pp 397–409.

Martin, F. and Bolliger, D.U. (2018) "Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment". *Online Learning Journal*, Vol 22, No, 1, pp 205–222.

McBride, P.E. (2019) "Addressing the lack of mental health services for at-risk students at a two-year community college: a contemporary review". *Community College Journal of Research and Practice*, Vol 43, No 2, pp 146–148.

McCain, N. and Evans, J. (2022) "They need 'extra support': university students, staff's mental health under spotlight after suicide", [online], News24, https://www.news24.com/news24/southafrica/news/they-need-extra-support-university-students-staffs-mental-health-under-spotlight-after-suicides-20220815.

McGhie, V. (2012) "Factors impacting on first-year students' academic progress at a South African university", Unpublished dissertation, Department of Curriculum Studies, Faculty of Education, Stellenbosch University.

Mpungose, C. (2019) "Is Moodle or WhatsApp the preferred e-learning platform at a South African university? First-year students' experiences". *Education and Information Technologies*, Vol 25, No 2, pp 927–941.

Mshayisa, V. (2022) "Students ' perceptions of blended learning and collaborative learning in Food Science and Technology : A case study of CPUT". *International Journal of Food Studies*, Vol 11, pp 1–18.

Mthethwa, R. and Luthuli, C. (2021) "The impact of COVID-19 pandemic on teaching and learning at tertiary Institutions: opportunities and challenges". *African Journal of Public Affairs*, Vol 12, No 3, pp 91–103.

Mzangwa, S.T. (2019) "The effects of higher education policy on transformation in post-apartheid South Africa: the effects of higher education policy on transformation in post-apartheid South Africa". *Cogent Education*, Vol 6, No 1, pp 1–15.

Naidoo, P. and Cartwright, D. (2020) "Where to from Here? contemplating the impact of COVID-19 on South African students and student Counseling Services in Higher Education". *Journal of College Student Psychotherapy*, pp 1–15.

ReadLab. (2022) "Report on the digital readiness and on the use of visual methods in higher education in Hungary, Uk, Greece, Italy, Sweden and South Africa", [online], *Futur (e) Ability*, pp 1–41. https://read-lab.eu/report-on-the-digital-readiness-and-on-the-use-of-visual-methods-in-higher-education-in-hungary-uk-greece-italy-sweden-and-south-africa.

Saidi, R.M., Sharip, A.A., Abd Rahim, N.Z., Zulkifli, Z.A. and Md Zain, S.M. (2021) "Evaluating students' preferences of open and distance learning (ODL) tools". *Procedia Computer Science*, Vol 179, No 2019, pp 955–961.

The Community of Inquiry. (nd.) *About the framework: an introduction to the community of inquiry. Athahasca University*, [online], http://www.thecommunityofinquiry.org/coi.

United Nations. (2015) *Transforming our world: the 2030 agenda for sustainable development. United Nations Department of Economic and Social Affairs*, [online], https://sdgs.un.org/publications/transforming-our-world-2030-agenda-sustainable-development-17981.

Vaughan, N.D. (2010) "A blended community of inquiry approach: linking student engagement and course redesign", *The Internet and Higher Education*, Vol 13, No 1–2, pp 60–65.

Wakelin-Theron, N., Ukpere, W.I. and Spowart, J. (2019) "Determining tourism graduate employability, knowledge, skills, and competencies in a VUCA world: Constructing a tourism employability model", *African Journal of Hospitality, Tourism and Leisure*, Vol 8, No 3, pp 1–18.

Warwick, I., Maxwell, C., Statham, J., Aggleton, P. and Simon, A. (2008) "Supporting mental health and emotional well-being among younger students in further education". *Journal of Further and Higher Education*, Vol 32, No 1, pp 1–13.

Xaba, G. (2021) "Experiences of student affairs professionals in facilitating co-curricular leadership development programmes in South African universities", *International Journal of African Higher Education*, Vol 8, No 3, pp 24–45.