AUTHOR:
Miss Mojaesi Violet Phejane[1]

AFFILIATION:
[1]University of the Free State, South Africa

DOI: http://dx.doi.org/10.18820/2519593X/pie.v40.i1.10

e-ISSN 2519-593X

Perspectives in Education

2022 40(1): 164-178

PUBLISHED:
04 March 2022

RECEIVED:
10 August 2021

ACCEPTED:
10 January 2022

# "The new normal": A case study on the emergent transition towards online teaching and learning in internal medicine and anaesthesiology at the University of the Free State

## Abstract

*This article aims to explore and analyse the challenges and experiences of students in internal medicine and anaesthesiology regarding emergency remote teaching and learning during the coronavirus pandemic. South African universities have been forced to move from face-to-face to online learning (e-learning) due to the coronavirus pandemic (COVID-19). The Department of Internal Medicine and Anaesthesiology at the University of the Free State (UFS) has been using the traditional face-to-face mode of teaching and learning for over a decade. Owing to the emergent transition to online teaching and learning, UFS has had to make drastic changes to how lessons are presented. Although it is believed that moving to online learning has been a smooth transition, various challenges hinder disadvantaged students from realising the full potential of online learning. The study's main objective is to propose alternative measures to overcome the students' challenges and access to effective e-learning. Interpretivist qualitative research was conducted using descriptive research methods, with case studies and existing aggregated data collected during a module evaluation on students' experiences and challenges with emergency remote teaching and learning and the effectiveness of resource access during COVID-19. Connectivism and Self-Directed Learning theories are the theoretical frameworks for this study. The findings agree with the digital divide as a hindrance to students realising the full potential of e-learning. Yet, lecturers still want students to submit assessment tasks and engage with course activities on the Blackboard learning management system. Owing to the COVID-19 pandemic and other challenges that result in a shutdown of university campuses, alternative measures need to be sought to allow students, particularly disadvantaged students, to realise e-learning.*

**Keywords:** *Access; Connectivism; COVID-19; emergency remote teaching; online learning; self-directed learning.*

# 1. Introduction

In this COVID-19 pandemic, learning can now be realised online, and knowledge can be transferred virtually through multiple media. To help prevent the spread of the virus that causes COVID-19, many institutions decided to cancel all face-to-face classes, including labs and other learning experiences, and mandated their faculties to move their courses online (Hodges *et al.,* 2020). Therefore, Jena (2020) agrees that online learning is the best solution during this crisis. Motala and Menon (2020) stated that COVID-19 is a global pandemic showing no abating signs. It brings with it a prolonged period of disruption, with these levels of disruption possibly continuing for the foreseeable future.

According to Rayner and Webb (2021), higher education institutions shifted courses to online platforms in an attempt to maintain instruction and normality during this unique period of global history. While the world was dealing with the COVID-19 pandemic, higher education institutions were hit hard at their core through the students who were affected by this stressful and unprecedented period, as onsite classes were moved online, semesters were postponed, and examinations were rescheduled (Aristovnik *et al*., 2020). As a result, there is an urgent need for in-depth studies to investigate how the pandemic crisis has affected students' lives worldwide. Choosing what resources to use and learning to offer depends on the rationale, time management and goals to be achieved during e-learning (Correia, 2020). This will assist students to incorporate physical and online resources to achieve effective e-learning (Mpungose, 2019). Anderson (2016) affirms that e-learning is education that takes place over the Internet and can also be referred to as online learning. It is an umbrella term for any learning that takes place across distance and not face-to-face.

With most South African universities transitioning from face-to-face to online learning, alternative measures needed to be sought to allow disadvantaged students to realise e-learning. The Department of Internal Medicine and Anaesthesiology at the University of the Free State (UFS) has been using the traditional face-to-face mode of teaching and learning for over a decade and has had to make drastic changes in the way lessons are presented, practicals are done and assessments are completed due to the emerging transition to online teaching and learning. Although it is assumed that the transition to online learning has been smooth, disadvantaged students face several challenges, such as a lack of sufficient data and internet connectivity in realising the full potential of online learning (UFS, 2020). This study aims to explore and analyse the challenges and experiences of students at the University of the Free State registered for the internal medicine and anaesthesiology module (MIAM5810) regarding emergency remote teaching and learning. The study's main objective is to propose alternative measures to overcome students' challenges to enable access to effective e-learning. The study focused on a single research question: what were the students' challenges in the MIAM5810 module in 2020?

# 2. Literature review

## *2.1 Higher education and COVID-19*

The current pandemic has added a new layer of complexity and uncertainty to a volatile and contested South African higher education sector, as evidenced by protests over fees, decolonisation and affordability, among other issues (Motala & Menon, 2020). As stated by Jena (2020), the United Nations Educational, Scientific and Cultural Organization (UNESCO) is assisting countries in their efforts to mitigate the immediate impact of school closures,

particularly for the most vulnerable and disadvantaged communities, and is attempting to facilitate the continuation of education for all through remote learning. However, not all students have the necessary knowledge, skills or resources to stay safe online (Jena, 2020; UNESCO, 2020).

Higher education, in particular, is tasked with preparing graduates for tumultuous shifts in society and economies. Similar to those around the world, universities in Africa are expected to contribute to the development of their societies (Motala & Menon, 2020). Higher education institutions have long recognised that holding onto past learning and teaching practices is not consistent with the needs of our knowledge society (Correia, 2020). In South Africa, the education and social purposes of the higher education system have been in the spotlight, especially in respect of the possibilities and limits of the role of artificial intelligence, the fourth industrial revolution (4IR), and digitisation (Motala & Menon, 2020).

## *2.2 Online learning, access and emergency transition*

Online education is not a novel concept. Historically, higher education institutions have used online platforms to develop cost-effective learning provisions, meet the demands of non-traditional students and establish a contingency design for higher education's long-term sustainability (Rayner & Webb, 2021). As stated by Du Preez and Le Grange (2020), online learning carries a stigma of being of a lower quality than face-to-face learning, despite research showing otherwise. The hurried move online by many institutions at once may cement the perception of online learning as a poor option, when in reality, no transition to online teaching under these conditions will be designed to fully exploit the affordances and possibilities of the online format (Hodges *et al.,* 2020). However, videoconferencing may be effectively used in online learning to enhance group collaboration with a sense of community between learners that may replace face-to-face classroom learning to some extent (Jena, 2020).

While moving teaching online can create a unique and flexible learning environment, COVID-19 accelerated this process, leaving institutions with little time to reflect on and design appropriate course learning outcomes suitable for an online delivery platform (Rayner & Webb, 2021). Mpungose (2020) indicates that fully equipped university information centres should be identified and used to provide blended lectures, through the special arrangement of community libraries (even though these may not be accessible owing to COVID-19), to meet the needs of students coming from remote areas halfway. The emergent transition became "the Great Online-Learning Experiment" (Rayner & Webb, 2021).

Many active academic community members, including lecturers and students, have been hotly debating the terminology in social media, and "emergency remote teaching" has emerged as a common alternative term used by online education researchers (Hodges *et al.,* 2020). Rayner and Webb (2021) affirm that the emergent shift to online delivery during the pandemic prompted a global push to reduce wasting the academic year. As stated by Jump (2020), at least 50% of institutions that were still using face-to-face modes moved all of their teaching online as a result of the global pandemic, according to a Times Higher Education survey done in September 2020 on senior managers representing 189 global higher education institutions. Any option to deliver face-to-face classes, including traditional campus-based delivery modes such as laboratory sessions and workshops, was eliminated (Rayner & Webb, 2021).

While transitioning to online learning may result in a distinct and adaptable learning environment, it is not without drawbacks. The pandemic has had a massive impact on higher

education students' academic work and life practices, e.g., switching to online lectures/ tutorials, closed libraries, changed communication channels for teachers and administrative support, new assessment methods, different workloads and performance levels (Aristovnik *et al.,* 2020). By providing flexible locations, class times and high-quality content, e-learning plays an important role in transforming lives for the digital world. It allows humanity to develop during a period of physical isolation caused by a pandemic (Jena, 2020).

## *2.3 Challenges and issues of access to effective teaching and learning*

Jansen (2004) argues that traditional face-to-face learning excludes students' experiences, because it occurs in the presence of a lecturer depositing knowledge for students in a demarcated classroom, using traditional methods (lecturer-centred) and traditional resources such as textbooks, charts, chalkboards and others. Teaching and learning tactics that produce well-educated, socially conscious citizens equipped with the knowledge, skills and traits for a changing era must underpin such improvements from traditional learning strategies to online platforms.

As stated by Mpungose (2020), learning management systems such as Blackboard and Moodle should not be used as a repository but should be customised to be linked to social media sites such as WhatsApp, Facebook and Connectyard; lecture-recording software, video and audio conferencing such as Zoom, Blackboard Collaborate, Skype, Microsoft Teams and other learning resources to provide interactive lectures (both synchronous and asynchronous). Lemay *et al.* (2021) also agree that participating in remote meetings via Zoom or other teleconferencing technologies has become a new normal. In this system, learners use Internet technology to communicate virtually with their teachers and fellow learners through email, WhatsApp and videoconferencing, instant messaging or other tools (Jena, 2020). These technologies may serve to eliminate the dichotomy between face-to-face and e-learning because the learning taking place at the university should be the same as that which is available when students are at home (Lemay *et al.,* 2021).

Several student issues emerged in terms of access to learning and the broader societal context in which it occurs, such as a lack of access to a device such as a laptop or a smartphone, no network coverage or limited coverage, high data costs, limited bandwidth and living conditions that were unsuitable for studying (Motala & Menon, 2020). Waha and Davis (2014), on the other hand, discovered loneliness and isolation, the lack of motivation, poor communication, fear of online communication and a lack of teacher guidance as issues reported by students in online learning. Other psychosocial factors identified by Motala and Menon included issues of social capital, access and vulnerability, which "included poor living conditions, environments not conducive to learning, student hunger and, while not necessarily quantifiable, a possible worsening of economic conditions during the Covid-19 lockdown that would impact on the students" (2020: 89). Students and lecturers had trouble obtaining continuous and seamless Internet connections.

Access, equity, student safety and development are top priorities for parents, educators and policymakers worldwide (Du Preez & Le Grange, 2020). Previously, students from rural areas were denied many of the opportunities that their urban and suburban peers took for granted. Connecting these rural students to online learning through video conferencing can significantly improve their learning experience (Jena, 2020). This allows rural/disadvantaged students to study from home while also having access to experts. Downes (2010) affirms that

e-learning necessitates the connectivity of specialised information sources so that students can learn in any way, anywhere and at their own pace, despite the challenges that such disadvantaged students face in many contexts. Videoconferencing is a synchronous model for interactive voice, video and data transfer between two or more groups/people (Jena, 2020).

## *2.4 Factors affecting the emerging transition to online learning and the difficulties encountered worldwide*

A study by Rayner and Webb (2021) of sports management education utilising online provision found that students can complete assignments, listen to lectures and submit work at their leisure. Yet the caveat to their findings is that any such research is comparing emerging data to planned and pedagogically informed programmes. Because academics have not been given the time or resources to fully review and maximise the opportunities within an online educational framework, this stigma has the potential to be reinforced as a result of the urgency with which institutions have responded to COVID-19 (Rayner & Webb, 2021).

As evidenced by the lessons from China, quality and equality of provision is a central tenet for the university, and these must be factored into this unusual shift to remote learning (Wu, 2020). The rapid conversion of modules from traditional face-to-face to online learning revealed a new level of under-preparedness among students. Inequitable student resourcing in terms of required technology was a factor due to the lack of proper preparation for the transition (Motala & Menon, 2020). The latter study believes there is still a challenge between face-to-face learning and e-learning. Many students communicated with academics about their difficulties and experiences transitioning to remote teaching and learning (Correia, 2020; Du Preez & Le Grange, 2020; Motala & Menon, 2020).

In a study conducted by Aristovnik *et al.* (2020), they first studied the students' academic work and academic life aspects before asking various students about their experiences with access and remote teaching and learning. Concerning the availability of the infrastructure needed to efficiently study from home, three-quarters of the respondents had computers where, not surprisingly, students from advanced countries prevailed. Nearly half of the respondents did not have a quiet study space, and one-third did not have regular access to printers, with African, Asian and South American students reporting the lowest results. A good Internet connection is a key element in efficient online learning (Aristovnik *et al.,* 2020).

Students were also polled on their confidence level in the computer skills required for effective online learning. They expressed confidence in their abilities to use online communication platforms, search for information online and share digital content (Aristovnik *et al.,* 2020). However, they lacked confidence in adjusting advanced settings of some software and programmes and using their ability to adjust advanced settings of some software and use online learning platforms such as BigBlueButton, Moodle, Blackboard, GoToMeeting, etc. This discovery necessitates the implementation of intensive training and support for students. The findings also show significant differences between students from developing and developed countries in the availability of digital equipment and the development of computer skills (Aristovnik *et al.,* 2020). Students do not have equal opportunities to study online efficiently due to different living conditions, domestic duties and other factors.

The agenda for the transformation of higher education outlined the need to "redress inequalities of access, participation and successes" and "expand SA's competitive participation in the global context" (Council on Higher Education, 2004). With the introduction of COVID-19

and the unprecedented full closure of campuses, debates about access to higher education have shifted and reshaped, with a greater emphasis on affordability and the quest to create ideal remote learning environments for students (Motala & Menon, 2020). The findings from both studies importantly call for public and higher education authorities to closely collaborate in bridging the gaps (Hodges *et al.,* 2020), especially concerning the degree to which the accessibility of learning materials might not be addressed during the emergency remote teaching period. This is to ensure that all students can access and learn from the course materials, activities and assignments for successful teaching and learning in the future, not only during the COVID-19 pandemic.

Another study that correlates accessibility issues for students is the Students' Access to and Use of Learning Materials (SAULM) Survey 2020 Report completed at the University of the Free State (UFS, 2020). The SAULM report stated that almost all (92%) of the UFS students own one to two electronic devices, mostly smartphones and laptops, to engage with their learning when off-campus. Most students obtained their devices from family members or purchased them themselves. Those who do not own devices are most likely to access smartphones borrowed from family or friends. Although most UFS students used smartphones to engage in academic activities, this was also the device that students found the most difficult to use for academic purposes (UFS, 2020). According to the Department of Higher Education and Training (DHET, 2020), institutions cannot promote blended teaching and learning if students do not have access to the Internet, appropriate study devices, enough data and the relevant skills to use devices and technology during the COVID-19 pandemic and moving forward. This study argues that alternative measures are needed to overcome students' challenges to allow them to have access to effective e-learning.

## 3. Theoretical framework

For this study, the Connectivism and Self-Directed Learning theories were used to guide the MIAM5810 module and the students' challenges and experiences with the transition from traditional to e-learning in bridging the digital divide gap.

According to Siemens and Downes (2009), Connectivism is a learning theory that can guide the integration of principles such as chaos and complexity through self-organisation and the understanding that decisions are based on rapidly changing foundations. In this article, Connectivism is used as a theoretical framework for understanding learning in the digital age. Because of its various attributes ranging from face-to-face to e-learning, Connectivism is a promising first lens to conceptualise learning in this digital age (Mpungose, 2020) (see Table 1 below).

**Table 1:** Connectivism principles and conceptualised learning (Siemens & Downes, 2009):

| Connectivism principles | F2F learning | E-learning |
|---|---|---|
| Learning and knowledge rest in the diversity of opinions. | Teacher-centred activities | Student-centred activities |
| Learning is a process of connecting specialised nodes or information sources. | University | Home/resident |
| Learning may reside in non-human appliances | Traditional resources | Modern resources |

| Connectivism principles | F2F learning | E-learning |
|---|---|---|
| The capacity to know more is more critical than what is currently known. | Passive student | Active student |
| Nurturing and maintaining connections is needed to facilitate continual learning. | Institutionalised connections | Social connections |
| Seeing connections between fields, ideas and concepts is a core skill. | Summative assessment | Formative assessment |
| Currency (accurate, up-to-date knowledge) is the intent of all Connectivism learning. | Formal content | Informal content |

The rapidly changing technological landscape of the twenty-first century has forced university lecturers to "adapt their teaching approaches without a clear roadmap for attending to students' various needs" (Mpungose, 2020: 2). Making connections allows students to create meaningful learning experiences through available Internet and technological resources in increasing their effectiveness, which leads to encouraging lecturers to work towards rethinking the possibilities of Internet access and other technological resources for effective learning so that each student can gather and share information regardless of the challenges (the digital divide) they face (Mpungose, 2020).

Students from low-income families and disadvantaged backgrounds are more likely to suffer during online learning as they may not be able to afford a high-speed Internet connection and the required technical devices. Jena (2020) stated that the lack of affordability widens the gap between privileged and unprivileged enrolled university students. For effective e-learning to occur even if students are at home, access to the Internet and technological resources should be made available to connect with one another and lecturers, regardless of any difficulties they may face (Siemens & Downes, 2009; Mpungose, 2020). Instead of seeing students as blank slates or passive users of information, Connectivism sees them as active participants who can nurture, maintain and traverse network connections to access, share and use the information for learning (Siemens & Downes, 2009).

In general, Siemens and Downes (2009) argue that traditional resources such as books, charts, chalkboards and others form the foundation of learning, but that in the digital age, they must be supplemented by modern resources such as the Internet, computers, mobile phones, and others for students to connect and share information. Mpungose (2020) argues that during the pandemic, lecturers aimed to provide audio and video content and self-assessment exercises for students. In other words, additional resources increase active student participation and the ability to learn more; thus, the active student, as opposed to the passive student, can use provided resources to seek out current information from primary and secondary sources (Siemens & Downes, 2009).

As a result, lecture contact sessions are insufficient for student learning and should be supplemented with self-study time to achieve learning outcomes. However, e-learning provides many of these benefits over face-to-face learning because it creates a more intense atmosphere that transitions from synchronous to asynchronous teaching and learning. As a result, e-learning advocates for student-centredness rather than teacher-centredness in

teaching and learning because “students learn together online, and support mechanisms such as guiding questions influence how students interact in general...” (Damsa *et al.,* 2015: 56).

Looking at Siemens and Downes’ (2009) Connectivism principles and conceptualised learning, we look further at Self-Directed Learning as a theoretical underpinning for bridging the digital divide and challenges students in MIAM5810 experienced when emergent e-learning was introduced. Self-Directed Learning (SDL) is a process in which individuals take the initiative to diagnose their learning needs, formulate goals, identify human and material resources and evaluate learning outcomes without the assistance of others (Knowles, 1975; Mahlaba, 2020). Self-Directed Learning principles have the following ideologies (Mahlaba, 2020):

- SDL portrays learning as a collaborative activity done with others.
- SDL describes a learner’s overall approach to learning.
- Self-directed learners are able to regulate their learning.
- SDL is typically concerned with the learning environment that promotes SDL skills and learners’ ability and readiness to be self-directed in their learning.

According to the principles, Mahlaba (2020) stated that self-directed learners are self-motivated to learn, autonomous and self-monitor their individual learning. They can assess their own learning progress by setting clear individual goals for themselves. Self-directed learners develop individual learning strategies to achieve their learning objectives while taking the initiative to learn. They are open and willing to learn new things through identifying resources for their learning. Self-directed learners value learning and possess self-control in their learning. They are also curious and intrinsically motivated to learn (Mahlaba, 2020).

When looking at Connectivism and Self-Directed Learning, they complement each other in a way that states for any individual student to effectively learn, each one has to begin learning through connecting with the materials they receive as well as other information sources while being the pioneer of their own learning. Using both theories can help students move toward a more independent and flexible learning environment by engaging in more “out of the box” ways of getting resources and other digital learning materials that may be more cost-effective for students while also being easily accessible to all students. This implies that utilising Connectivism and Self-Directed Learning, students cannot rely solely on prescribed readings, taught content, consultation with a single lecturer and students in a specific subject/module. However, both theories encourage students to enjoy exploring the world to connect with other people outside of the formal study context, using search engines, social media and other means, because learning is about more than just knowledge consumption (Siemens & Downes, 2009; Mahlaba, 2020; Mpungose, 2020).

## 4. Research paradigm and method

Interpretivism contends that the study of human society must include subjective views, opinions, emotions and values that cannot be directly observed and counted in addition to empirical and ostensibly objective evidence (Creswell, 2014). Interpretivism is concerned with understanding the world from subjective experiences of individuals with phenomena that must be interpreted to confirm certain phenomena. One advantage of using an interpretive paradigm is that the responses are valid and close to the truth (Creswell, 2014). Interpretivism is used in this study as a way to understand and describe students’ experiences and how they

made sense of their actions during the transition period in their own context of the national shutdown and the move from traditional methods to emergency remote teaching and learning. This qualitative interpretive case study of an Internal Medicine and Anaesthesiology module presented at the University of the Free State was purposively selected. The aggregated data were collected from the students' summarised module evaluation form responses completed online at the end of the academic year (2020). The section that was used for this study was the open-ended question section where 135 of the 214 registered students reflected on their experiences and challenges with emergency remote teaching and learning, as well as the effectiveness of access to learning resources and technological abilities due to COVID-19.

The methodology also involved a secondary literature review from the University of the Free State student engagement survey (2020) and critical reflection on the Department of Internal or General Medicine case, specifically focusing on the MIAM5810 module. A detailed and deep description of students' experiences (as discussed in the next sections) and challenges was generated using a more descriptive case study design of identifying patterns and themes from the summarised student evaluation form while also comparing and supporting the responses with the UFS report on Students' Access to and Use of Learning Materials (UFS, 2020), which resulted in proposing alternative measures to overcome limitations in realising e-learning in practical modules such as internal medicine and anaesthesiology.

## 5. Ethical considerations

A formal written email requesting permission from the lecturer and telephonic agreements to use the module for research was provided by the MIAM5810 course leader before granting access to the students' aggregated evaluation responses, summarised from the evaluation forms as part of ethical clearance. Ethical clearance to conduct the study was also obtained from the General Human Research Ethics Committee (GHREC) at the UFS (protocol number UFS-HSD2021/2016/21). All information received from the forms was treated with utmost confidentiality, anonymity (via the aggregated summarised responses on one document without any student numbers or names) and professional conduct.

## 6. Findings

Using the principles of self-directed learning and Connectivism, the "new normal" in Table 2 was developed, comparing previous methods of learning in MIAM5810 with the new way of teaching and learning, which requires students to be self-directed and capable of making connections between their learning and educational technology.

**Table 2:** "the new normal" – changing methods of teaching and learning:

| **Traditional methods** | **"The new normal"** |
|---|---|
| 1. The study material was provided as hard copies for students from the Xerox study material centre. | 1. The study material is now posted in the Blackboard MIAM5810 course. |
| 2. Practicals twice a week with tutors assisting in the lab. | 2. Online practicals with e-tutors once a week. |
| 3. Two semester tests and one exam in an invigilated venue. | 3. Two QuestionMark online tests and an online exam without invigilators. |

| Traditional methods | "The new normal" |
|---|---|
| 4. Physical lecturer consultations. | 4. Blackboard Collaborate consultations with a group of five or ten students. |
| 5. Lecturer refers you to bookstores and the course study guide. | 5. Download everything from the Blackboard MIAM5810 course and e-libraries. |
| 6. Classes and lectures in venues. | 6. Classes and lectures on Blackboard Collaborate, Microsoft Teams and Zoom. |

I will now present the key findings of the students' challenges and experiences in MIAM5810 regarding the emergency transition from face-to-face to e-learning before discussing the themes that emerged from the summary of the responses and suggesting alternative measures through the themes and their respective categories. From the students' evaluation forms feedback, the responses were focused on students' challenges concerning MIAM5810 and the move to e-learning. The research question was used to summarise the student's feedback. The following were the themes/challenges identified from the analysis of the summarised evaluation forms:

## *6.1 Access to learning materials*

According to the summarised responses of students, the majority reported difficulty in easily accessing learning materials, with downloading of learning materials such as study guides, reading material and PowerPoint slides being reported to be too costly. Another issue with learning materials that emerged from the summarised responses was the difficulty in obtaining information from the university's LearnOn portal, with some students expressing that the #LearnOn site had too much information about remote teaching and learning that was not easily explained and it was difficult to make sense of all the information.

## *6.2 Access to the internet and devices*

Another evident theme was the challenge in accessing the internet for students to attend online classes, logging into the university's LMS, and the difficulty in owning devices that were compatible with logging in to the university's LMS, as well as the difficulty in owning devices that were compatible for online learning. Some students from rural areas experienced connectivity challenges due to a lack of bandwidth. Some students did not know how to use the Blackboard and QuestionMark assessment tools from their smartphones. One student noted that they experienced "Poor audio/video quality in some areas due to poor network connectivity" and another student highlighted that "data costs were a big problem because I struggled to connect to the university's website with global protect (VPN)". When looking at the students in MIAM5810 who are not able to afford devices and other high-speed connectivity that could make their e-learning easier, it becomes one of the hindrances to their success.

## *6.3 Knowing how to use the technology resources*

According to Stevenson (2010), technology resources are defined as information, tools or devices that motivate students and provide information. Students reported that using technology is a challenge because practicals that moved online were difficult to complete. Students also reported not knowing how to write online assessments and use the Blackboard LMS as they lack sufficient training on the tools. Some of the challenges that emerged from the aggregated data on students' experiences included the problem of Blackboard logging out

during an online test due to connectivity issues, the helpdesk centre being too busy to assist students immediately, the problem of changes in the Objective Structured Clinical Examination (OSCE) practicals, which used to take place physically but were moved online, as well as the problem of missing important information due to the lack of a MIAM5810 WhatsApp group.

### *6.4 Other challenges*

Other challenges that students reported included using the eLibrary that was not physical anymore, load shedding[1], which interrupted online assessments and classes, their feelings of loneliness and sadness because they were unable to share how they felt with their classmates and laziness, tiredness and lack of self-discipline, which was caused by studying from home.

## 7. Discussion

This section compares the literature used in this case study to explore the themes identified from the aggregated students' summary input while integrating SDL and Connectivism principles. According to Mpungose (2020), the adoption and use of online resources in a South African university demonstrate the critical need to prepare students for e-learning. While medical education teaching and learning have been adapted, areas of concern have been identified. According to Motala and Menon (2020), concerns include assessment, laboratory work and practical classes, clinics and patient interaction, as well as experimental work and other primary data collection, administrative updating and examination progress. While online methods could be adapted further, there remain limitations that required strategic revision (Motala & Menon, 2020). When considering the Connectivism principles, which resonate with learning as a process of connecting specialised nodes or information sources, students were moved from traditional face-to-face learning to online and required self-directed skills to support their overall learning.

As affirmed by the findings, the biggest difficulties students encountered were due to the transition of Internal Medicine and Anaesthesiology (MIAM5810) from traditional teaching and learning methods to e-learning. The difficulties with connectivity and network issues, a lack of appropriate devices for studying and a lack of data to engage in their studies were common from the student evaluation forms with 78% of the students outlining these as difficulties. According to the Department of Higher Education and Training (2020), students' access to appropriate devices was frequently noted as a barrier to their participation in remote learning. Fifty-five per cent of the students outlined other issues such as living conditions that were not conducive to learning and studying, because some students came from disadvantaged backgrounds. The environment in which many students found themselves during the nationwide lockdown in South Africa was not conducive to learning (DHET, 2020). Modules with OSCE practicals and clinical training, such as MIAM5810, meant that students struggled to come to terms with and adjust to the new way of doing things. Seventy per cent of the students expressed frustration at not participating properly in the changed OSCE practicals. Additional resources (a key component of Connectivism) were made available to students during the transition, such as the e-library, study materials posted on Blackboard, and online OSCE practicals with e-tutors. This allowed connected students to be more active in managing their learning, rather than just being passive learners. In this regard, students must take a more active role in managing their learning rather than relying solely on lecturers for information.

1 Load shedding: A method of distributing available power across all Eskom customers in a regulated manner. This is similar to the rolling blackouts experienced in the USA.

Sixty per cent of the students expressed dissatisfaction with communication platforms during remote teaching and that there was not enough communication, such as the lack of a class WhatsApp group. Furthermore, 58% of the students also reported having struggled without immediate communication platforms like when they previously used to walk into the lecturers' offices for immediate communication. From the 135 student responses, 60% of the students reported having attempted to bridge the gap between known methods of learning and the emergent e-learning methods but were not always successful. According to DHET (2020) additional to concerns with devices, skills, data and network connectivity, students in South African institutions mentioned other technical issues with their schools' LMS and library systems, dissatisfaction with not being aided with technical issues or flaws in systems that impacted assessments. Nurturing and maintaining connections between students and lecturers is required to facilitate continuous learning, where collaborative activities such as study groups and peer support WhatsApp groups would suffice to assist students in becoming connected and self-directed.

The inability or lack of training on how to use the Blackboard LMS was also identified as a challenge for 72% of the MIAM5810 students, who stated that the LMS was complicated, that they could not understand how most tools worked and that they were in desperate need of proper training on the use and navigation of the Blackboard platform. Students were frustrated by a general lack of interactive engagement between students, instructors and classmates, as well as a lack of communication from lecturers. Some students also found it challenging to interact with instructors via online platforms (DHET, 2020). Fifty-five per cent of the students responded to being frustrated in having their study guides and textbooks accessible in a different electronic format. According to the DHET (2020) report, many students may have to acquire new textbooks for the second semester due to reduced engagement with other students from various year groups who may sell their books. More than half of the students (58%) expressed struggling with the transition and being fearful. For successful teaching and learning, students need to be equipped with a learning environment that promotes SDL skills and their own readiness to be self-directed in their learning. Students ought to learn how to connect their learning materials with the university's LMS while using the principles of self-directed learning to achieve meaningful learning successfully.

## 8. Limitations

This present study is only descriptive of the experiences and challenges of one group of 135 of the 214 students registered in the MIAM5810 module at the University of the Free State. It is solely based on the aggregated data from their 2020 course evaluation feedback. The study does not generalise all University of the Free State students' experiences regarding the transition to online teaching and learning.

## 9. Recommendations

The following are recommendations to propose alternative measurements to overcome students' digital divide challenges and enable them to access effective e-learning. Despite the challenges experienced by students in transitioning from face-to-face to e-learning, the prominence of the digital divide is the main limitation to students realising effective e-learning. The customisation of the Blackboard LMS needs to meet the local needs of disadvantaged students and be beneficial in ways that can help realise e-learning. Literature states that to

create a structured online learning environment, a social presence, community and meaningful interaction is required (Anderson, 2016; Jena, 2020; Mpungose, 2020).

Alternative accessibility pathways for students such as the provision of free mobile data, free physical and online resources, and the use of an information centre for blended learning, seem to be the solution going forward in the context of COVID-19. Traditional definitions of effective online learning principles emphasise using a systematic design, high quality instruction and the development of appropriate assessment strategies to ensure learning outcomes are met at the threshold (Rayner & Webb, 2021). The need for capacity building on the use of learning management systems and other newly adopted online learning software is also necessary.

As COVID-19 continues to impact higher education, this module's continued move to online learning should consider the outlined strategies in improving teaching and learning while attempting to resolve the challenges outlined by students concerning the emergent transition. The module's course leader and lecturers require time and the skills to create asynchronous activities, innovative pedagogical approaches, appropriate learning outcomes and assessment strategies that ensure learning environments that place students at the centre of successful engagement with the online course. A learning environment should be generated that actively supports inclusion and establishes structure and convenience to meet the needs of an online student.

Traditional face-to-face lectures can be replaced or supported with smaller bite-sized lectures such as six to twelve-minute recordings. For face-to-face lectures, recording these will assist students who might be ill or have limited internet access to not miss out. The lecturer needs to have presence online, through establishing virtual office hours as part of the tutorial and consultation and using talking-head videos where appropriate. Introducing a module WhatsApp group for students to communicate and engage with each other and the material within a specific time outside consultation time and using asynchronous communication techniques can stimulate peer connection to build a learning community.

To meet the new needs of student learning in challenging situations, lecturers can provide interactive activities such as quizzes and surveys to allow students and lecturers to interact. Hosting weekly forums and question-and-answer sessions can help lecturers communicate effectively with students. Lecturers could also consider assessment approaches that promote group work, such as encouraging students to create a podcast, video clip or web page for their OSCE practicals to increase group engagement – or adding mini self-evaluation tests to supplement individual learning activities. These are critical considerations for internal medicine and anaesthesiology lecturers, who will train specialists who will be at the forefront of managing the health sector in the years and decades following COVID-19.

## 10. Conclusion

Online teaching/learning threatens formal and educational access, as some students may be disadvantaged by the abrupt move to a different mode of provision. The findings of the MIAM 5810 module student feedback agree with the digital divide as a hindrance to students realising the full potential of e-learning. Yet lecturers require students to submit assessment tasks and engage with course activities on the Blackboard LMS. Necessary steps must be taken to train staff and students in how to effectively use online learning platforms.

Lecturers and administrators are urged to consider that students require time to transition to a new mode and might not be able to participate in courses immediately due to experienced challenges. Students who are used to the contact mode of provision, in particular, may find it more difficult to adapt to a digital mode of learning, not because they are not digitally literate, but because they may not have adequate access to digital platforms. Furthermore, having access to technology does not ensure educational access. Institutions should adopt the policy to provide free Internet and digital devices to all students who need it to encourage successful online learning.

Going forward, this may require institutions to redefine their teaching and learning initiatives in considering the need to invest in new technologies, the provision of different resources to support the different modes of delivery and what kinds of graduates are being produced for a post-COVID-19 world and society. Self-directed learning is required to succeed in the "new normal" under these strenuous teaching and learning conditions. The rapid transition requires redirected resources. These include human resources, such as academics to transition to teaching and assessing online. It also requires resources to overcome the problems posed by the need for practicals, clinical training and work-integrated learning. In addition, the flexibility of a more blended teaching and learning environment enables students to cut down on travel costs and potentially frees up more time to engage with their studies. Education is a public good, and equality and social justice must drive educational reform.

## References

Anderson, T. 2016. Theories for learning with emerging technologies. *Emerging Technologies in Distance Education,* 7(1): 7-23.

Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N. & Umek, L. 2020. Impacts of the Covid-19 pandemic on life of Higher Education students: A global perspective. *MDPI Sustainability Journal*, 12: 1-42. https://doi.org/10.20944/preprints202008.0246.v2

Correia, A.P. 2020. Healing the digital divide during the COVID-19 pandemic. *The Quarterly Review of Distance Education,* 21(1): 13-21.

Council on Higher Education (CHE). 2004. *South African higher education in the first decade of democracy.* Pretoria: CHE.

Creswell, J. 2014. *Qualitative inquiry and research design: Choosing among five approaches,* third edition. Thousand Oaks, California: SAGE Publications.

Damşa C., de Lange T., Elken, M. & Esterhazy, R., 2015. Quality in Norwegian higher education: A review of research on aspects affecting student learning. *Nordic Institute for Studies in Innovation, Research and Education (NIFU),* 24: 1-91.

Du Preez, P., & Le Grange, L. 2020. The COVID-19 Pandemic, online teaching/learning, the digital divide, and epistemological access. In L.N. Ramrathan, N. Ndimande-Hlongwa, N. Mkhize & J.A. Smit (Eds.). *Re-thinking the humanities curriculum in the time of COVID-19* (pp. 90-106). Pietermarizburg: CSSAL Publishers.

Hodges, C., Moore, S., Lockee, B., Trust, T. & Bond, A. 2020. The difference between emergency remote teaching and online learning. *Educause Review,* 3: 1-15.

Jansen, J. 2004. *Changes and continuities in South Africa's higher education system, 1994 to 2004. Changing class: education and social change in post-apartheid South Africa.* Cape Town: Oxford University Press.

Jena, P.K. 2020. Online learning during lockdown period for Covid-19 in India. *International Journal of Multidisciplinary Education Research*, 5(8): 82-92. https://doi.org/10.31235/osf.io/qu38b

Jump, P. 2020. *The leaders survey: Will COVID-19 leave universities in intensive care?* Available at https://www.timeshighereducation.com/features/leaders-survey-will-covid-19-leave-universities-intensive-care# [Accessed 26 July 2021].

Knowles, M.S. 1975. *Self-directed learning: A guide for learners and teachers.* New York: Association Press.

Lemay, D.J., Doleck, T. & Bazelais, P. 2021.Transition to online teaching during the COVID-19 pandemic. *Interactive Learning Environments*: online. https://doi.org/10.1016/j.chbr.2021.100130

Mahlaba, S.C. 2020. Reasons why self-directed learning is important in South African during the COVID-19 pandemic. *South African Journal of Higher Education*, 34(6): 120-136. https://doi.org/10.20853/34-6-4192

Motala, S. & Menon, K. 2020. In search of the 'new normal': Reflections on teaching and learning during Covid-19 in a South African university. *Southern African Review of Education,* 26(1): 80-99.

Mpungose, C. 2019. Is Moodle a platform to decolonise the university curriculum? Lecturers' reflections. *Africa Education Review,* 17(1): 100-115. https://doi.org/10.1080/18146627.2018.1479645

Mpungose, C.B. 2020. Emergent transition from face-to-face to online learning in a South African university in the context of the Coronavirus pandemic. *Humanities and Social Sciences Communications,* 7(113): 1-9. https://doi.org/10.1057/s41599-020-00603-x

Rayner, M. & Webb, T. 2021. Implications and opportunities for sport management education in the COVID-19 era. *Sport Management Education Journal*, 15: 49-53. https://doi.org/10.1123/smej.2020-0013

Siemens, G. & Downes, S. 2009. Connectivism and connective knowledge. *International Journal Instruct Technology Distance Learning*, 2(1): 3-10.

Stern, J. 2018. *Introduction to online teaching and learning*. Available at http://www.wlac.edu/online/documents/otl.pdf. [Accessed 20 June 2021]

Stevenson, T. 2010. *Oxford dictionary of English*. New York: Oxford University Press.

UNESCO. 2020. *COVID-19 educational disruption and response*. Available at https://en.unesco.org/covid19/educationresponse [Accessed 15 July 2021].

Waha, B. & Davis, K. 2014. University students' perspective on blended learning. *Journal of Higher Education Policy and Management,* 36(2): 172-182. https://doi.org/10.1080/1360080X.2014.884677

Wu, Z. 2020. *How a top Chinese university is responding to coronavirus.* Available at https://www.weforum.org/agenda/2020/03/coronavirus-china-the-challenges-of-online-learning-for-universities/ [Accessed 19 June 2021].