AUTHOR:
Raisuyah Bhagwan[1]
Lyrise Naidu[1]

AFFILIATION:
[1]Durban University of Technology

DOI: https://doi.org/10.38140/pie.v42i4.7101

e-ISSN 2519-593X
Perspectives in Education
2024 42(4): 134-152

PUBLISHED:
10 December 2024

RECEIVED:
20 February 2023

ACCEPTED:
13 October 2024

Work-integrated learning at the interface of the COVID-19 pandemic: An exploratory study at a University of Technology in South Africa

Abstract

Confronted by the disruption of work-integrated learning (WIL) placements due to the COVID-19 pandemic, students in the Faculty of Health Sciences at the Durban University of Technology experienced multiple academic and mental health challenges. This study highlights the impact the pandemic had on students from the Departments of Homeopathy, Radiography, Emergency Medical Care, Biomedical, and Chiropractic. Using a qualitative approach, fifteen students were purposively sampled to participate in the study. The paper describes their challenges with regards to securing patients, dealing with patients who were COVID-19 positive, and the need for greater academic and psychological support during their WIL placements.

Keywords: *Work-integrated learning (WIL); COVID-19 pandemic, student experiences*

1. Introduction

The COVID-19 pandemic led to the rampant disruption of higher education institutions, affecting many students globally. Social distancing laws in particular impacted traditional educational practices with far-reaching consequences for learning (Pokhrel & Chhetri, 2021). Research has highlighted the weaknesses of online teaching infrastructure; the pitfalls of remote learning; the difficulties adapting to new assessment methodologies; and the challenges of learning at home for students, and its consequent hindrances to academic excellence in higher education (Pokhrel & Chhetri, 2021).

The immediate impact on work-integrated learning (WIL) was also unprecedented as the closure of higher education campuses and workplaces/host-organisations resulted in many active WIL activities either being shifted online or completely cancelled. Whilst the notion of using online platforms to deliver preparation for WIL is not entirely

Published by the UFS
http://journals.ufs.ac.za/index.php/pie

new to create WIL experiences (Larkin & Beatson, 2014), such practices are uncommon (Zegwaard, 2015). Hence, the need to explore students' experience of the same (Pretti, Etmanski & Durston, 2020).

Work-integrated learning, settings which provide critical opportunities for students to learn salient skills and acculturate to professional ethical values through real-world experiences were especially challenged. The transition to online learning during the COVID-19 pandemic is not a practical solution for WIL models, particularly where students had to undertake work-integrated learning in healthcare settings (Lee, Solomon, Stead, Kwon & Ganti, 2021). This study explored the challenges students faced during their WIL placements in the Faculty of Health Sciences at the Durban University of Technology.

2. Literature review

The COVID-19 pandemic compelled many academics to introduce changes whilst maintaining academic rigour and presenting WIL programme-based solutions to COVID-19 challenges. In Canada and Australia, many students were faced with having to work remotely or were disengaged from their WIL experience (Kay, McRae & Russell, 2020). Other authors have described how WIL had to be moved from the workplace to online WIL initiatives to enable student learning outcomes. Hodges and Martin (2020) wrote that whilst online initiatives enriched capability, they required adaptability, flexibility, and resilience. Furthermore, Carmody *et al.,* (2020) noted that other academics had to create virtual environments to support simulated learning.

Preliminary data from studies reflect that 36% of WIL placements were deferred or cancelled with the greatest effect on allied health disciplines such as osteopathy, chiropractic, and medical imaging (Kay *et al.,* 2020). Faced with the large-scale cancellation of placements, academics had to devise novel ways of facilitating learning in WIL. One way was that synchronous platforms were used for the delivery of scientific labs and fieldwork. Although these alternative WIL models did not replace in-person placements, they did provide students with the chance to participate in the evolving nature of work and learning (Dean & Campbell, 2020).

In most instances WIL is primarily delivered through full immersion into workplace practice (e.g., work placements, co-op, internships, practicums, and clinical placements) and reflects the type of WIL that is most significantly affected by the COVID-19 pandemic (Rowe, Jackson & Fleming, 2021). In the South African context, WIL is defined as

> the component of a learning programme that focuses on the application of learning in an authentic learning work-based context under the supervision and/or mentorship of a person/s representing the workplace. It addresses specific competencies identified for the acquisition of a qualification that make the learner employable and assist in the development of related personal attributes. Workplace/service employees and professional bodies are involved in the assessment of the learning experience, together with University's academic employees (HEQC, 2004).

In early March 2020, South Africa, with a population of 59 million people, were confronted by the COVID-19 pandemic and quickly became the hardest-hit country in Africa by the SARS-CoV-2 virus. From the initial case, which was reported on March 5th, the number of infections surged rapidly, prompting the South African Government to swiftly impose a strict six-week

lockdown. This decisive action effectively contained the spread of the virus (Stiegler and Bouchard, 2020). Following WHO guidelines, physical gatherings were discouraged to curb the COVID-19 pandemic (Omodan, 2020). Like other countries, South African educational institutions faced an abrupt shutdown, halting all activities, including teaching and learning (Mncube, Mutongoza, and Olawale, 2021).

The COVID-19 outbreak disrupted South African higher education institutions significantly, as the closure of colleges and universities, not only halted teaching but also delayed the examination process at many institutions. To adapt, some universities transitioned to online assessment methodologies (Weeden & Cornwell, 2020). The need for social distancing measures to prevent widespread virus transmission, led to a sudden shift from in-person to online learning. This key pandemic precaution, which was aimed at reducing interpersonal contact, minimised the risk of rapid transmission in densely populated areas like university campuses (Weeden & Cornwell, 2020). According to Kumar and Mittal (2020), higher education institutions (HEIs) were grappling with timely semester completion and exam scheduling. Moreover, they faced challenges in planning the next academic session, dealing with financial constraints due to reduced tuition payments, and handling a potential drop in student enrolment and placements, which were all compounded by the abrupt shift to online teaching (Kumar and Mittal, 2020).

During the COVID-19 pandemic, one of the university's top priorities was to close the gap between the institution's intentions and the realities of distant teaching and learning. Aspects of synchronous and asynchronous delivery had to be leveraged for the benefit of the students to ensure that the academic programme was not disturbed. The mantra was always that remote teaching should be student-centred (Khlaif ***et al.,*** 2021). The plan was to keep remote teaching and learning going. With the realisation that 'one size does not fit all', academic divisions began to emerge, because of the complexity connected with the remote learning mode specific to faculties and disciplines. Fieldwork practicum placements, WIL, and laboratory work all remained a source of concern. Closing the gap was achieved through innovative approaches such as online simulations and videoed practical sessions. Academic regulations were amended to allow for ongoing formative assessment. Despite these amendments, considerable differences in South Africa in terms of socioeconomic characteristics, data coverage, and university resource levels became a major challenge (Landa, Zhou & Marongwe, 2021). Moreover, this method of learning had multifaceted challenges (Iipinge, Batholmeus & Pop, 2020), which included lack of interaction between various stakeholders in the learning cycle; poor motivation because of lack of interaction with classmates; instructor absence; and low student participation (Merisi, Emekako, Legg-Jack, Mpundu and Lubombo, 2022). Other challenges included lack of student exposure to practice what they have learnt; ineffective approaches to the delivery of technical training; lack of prompt feedback from both peers and instructors; lack of clarity regarding important concepts; and instructor unpreparedness (Merisi, Emekako, Legg-Jack, Mpundu and Lubombo, 2022).

Work-integrated learning is an educational approach where students merge their academic studies with hands-on experience in a workplace aligned with their field of study and career goals. It is a crucial component of the training of healthcare professionals across various disciplines. The primary goal of WIL is for students to gain the knowledge, skills, and attitudes essential for their professional careers (Du Plessis 2019).

Health sciences programs typically include a mandatory work-integrated learning (WIL) component, overseen by professional bodies to ensure student outcomes are measurable in clinical settings. Workplace learning within WIL is a key part of the curriculum for these fields. Besides managing the formal curriculum and competency achievements, professional and state-run bodies must also guarantee the quality of training both at universities and in workplaces. Effective WIL relies on a three-way partnership between students, workplaces, and universities, with each party having clear responsibilities, roles, and benefits from participation (CHE, 2011).

In most WIL projects, the academics or WIL co-ordinators controls the interaction between the organisation and the students, including student placements, site visits, ongoing monitoring of student work and progress, and assessment of student learning and performance occurs during the placement (Holdsworth, Watty and Davies, 2009). There are four main curricular modalities that are considered in developing a WIL programme. These are work-directed theoretical learning, problem-based/oriented learning, project-based learning, and workplace learning (WPL) (CHE, 2011). For this study, the researchers focused on workplace learning.

Workplace learning (WPL) occurs when students are placed in work environments to gain practical experience. It involves students in planning and implementing activities, reflecting on them, evaluating outcomes, and adjusting for future actions. This reflective process helps students understand what was useful and important, enabling them to apply this learning to new activities. Essentially, WPL mimics the natural human learning process (CHE, 2011). According to CHE, career-focused professional Bachelor's Degrees, such as those in Engineering, Medicine, Radiography, and Nursing, are offered at Universities of Technology, comprehensive universities, and traditional universities, usually requiring 480 credits. Many professional programs mandate WPL, although it may not always be a full subject. Internationally, academic credit points are linked to expected study hours. These programs typically involve short, block placements during specific semesters (CHE, 2011). It is against this backdrop that the current study sought to understand students' experiences of WIL at a university of technology in KwaZulu-Natal.

2.1 Theoretical framework

This study adopted Kolb's (1984) experiential learning theory as its theoretical framework. This theory emphasises the role of experience in learning. It highlights the importance of learning from concrete experiences (Morris, 2020). Kolb (2014) contended that learning is an ongoing process rather than a final product, and learners achieve better results when every stage of the learning process influences their experiences (Kolb, 2014). Hence, this theory is relevant to investigating the experiences of students engaged in work integrated learning during the COVID-19 pandemic, as it focuses on the interaction and relationship in the workplace as part of the classroom experience.

3. Research methodology

3.1 Research approach, design and strategies

The study used a qualitative exploratory approach. Qualitative research is an approach that allows researchers to identify issues from the perspective of the study participants and understand the meanings and interpretations that they give to behaviour, events, or objects (Hennink, Hutter & Bailey, 2020). The research design used for the study was the exploratory

design. Stebbins (2021) defined exploratory research as "a comprehensive, purposeful, systematic, prearranged endeavour aimed at maximising the discovery of generalisations for describing and understanding a social or psychological area. The study sought to distil rich descriptive information from students in the Faculty of Health Sciences, with regards to how the COVID-19 pandemic impacted on their WIL experience. The objectives of the study were as follows:

1. To understand student experiences related to the COVID-19 pandemic.
2. To inquire how the COVID-19 affected the personal and academic well-being of students in the Faculty of Health Sciences.
3. To explore what further support was required to help students who were affected during the COVID-19 pandemic.

3.2 Participants, sampling and ethics

The present study focused on gathering information on students' experiences of WIL in the Faculty of Health Sciences during the COVID-19 pandemic. Non-probability sampling was used to recruit the participants, who were purposefully selected by Heads of Departments in the Faculty of Health Sciences in accordance with ethics protocols. Ethical clearance to conduct this study was obtained from the Institutional Research Ethics Committee (IREC) of the Durban University of Technology (DUT) (IREC 114/21). Permission was thereafter obtained from all participating departments in the Faculty of Health Sciences. The primary criterion for the selection of the students was that they were from the Departments of Chiropractic, Radiography, Biomedical Science, Homeopathy and Emergency Medical Care, in practical placements for WIL. Fifteen students in total participated in the study. Data collection stopped after saturation was achieved. Table 1 below presents the demographic profile of the participants.

Table 1: Demographic profile

Participants (n=15)	Department	Level of study
3	Radiography	2-4
3	Chiropractic	2-4
3	Biomedical Science	2-4
3	Homeopathy	2-4
3	Emergency medical Care	2-4

3.3 Data collection and analysis

After receiving ethical clearance for this study, dates to conduct the interviews were arranged with the participants who were interested in partaking in the study. An interview guide was used to facilitate these semi-structured in-depth interviews. Semi-structured interviews have a set of predetermined questions on an interview guide, but the interview will be guided rather than dictated by the schedule (Greeff, 2011).

The data were analysed using thematic analysis as per the steps outlined by Braun *et al.,* (2020). The latter allowed the researcher to make sense of collective meanings and experiences. This helped to organise and reduce the data into broad themes. A preliminary coding scheme was generated that served as a template for the data analysis (Tutty, Rothery & Grinnell, 1996). Similar themes and recurring patterns in the data were linked together and the contrasts and differences identified (Liamputtong & Ezzy, 2005).

3.4 Trustworthiness

To enhance the trustworthiness of this study, four criteria to ascertain rigour in qualitative studies, namely *credibility, dependability, conformability*, and *transferability*, were adopted (Cope, 2014; Lincoln and Guba, 1994). Careful documentation of the research process, along with an audit trail, was maintained for each step of the data analysis process. Each step of the data analysis process, from the initial transcript to the final coded transcripts and their relationship with the findings presented in this article, was meticulously documented, along with an audit trail of each step of the data analysis process.

4. Analysis and discussion

Six main themes emerged from the analysis of the data. Table two below reflects the themes and their relationship to the objectives.

Table 2: Relationship between the themes and objectives

Themes	Objectives
Theme 1: Impact of the pandemic on WIL	To understand student experiences related to the COVID-19 pandemic.
Theme 2: Personal fear and anxieties regarding the coronavirus during WIL	To inquire how the COVID-19 affected the personal and academic well-being of students in the Faculty of Health Sciences.
Theme 3: Inability to cope with suffering and loss	To understand student experiences related to the COVID-19 pandemic.
Theme 4: Encountering COVID-19 at the placement	To inquire how the COVID-19 affected the personal and academic well-being of students in the Faculty of Health Sciences.
Theme 5: Lack of preparedness for and debriefing post WIL	To inquire how the COVID-19 affected the personal and academic well-being of students in the Faculty of Health Sciences.
Theme 6: University support	To explore what further support is required to help students who were affected during the COVID-19 pandemic.

4.1 Theme 1: Impact of the pandemic on WIL

Theme 1 provides a discussion on the loss of clinical time and impact on learning.

The students expressed that not only did they lose WIL-related learning opportunities, but the virtual experience of WIL left them unprepared for clinical practice, as noted below:

> "W*e did not have our work integrated learning… [also], we are not experiencing as much, as it was virtual, it's not the same. And now being in the laboratory, things are expected of us …. as much as they know that we have not had any exposure to the laboratory, they still expect a certain degree of things*".

> "*We weren't allowed to go to hospital where you do actually gain a lot of experience for our course. So, because that was taken away, I feel it was a bit tougher on us*".

> "*So, in 3rd and 4th year we were supposed to go to the hospitals to do rounds and see patients and do case studies, and we haven't been able to do that. I feel we've missed out on a huge opportunity to see what certain conditions look like … I'm hoping it doesn't affect us when we get to clinic or practice one day with getting patient numbers and hours*".

As a result of being unable to go to hospitals or clinics, students felt that they were denied the opportunity to gain relevant experience that would affect their preparedness as practitioners in their respective fields. This generated a significant level of stress amongst them, which they expressed as follows:

> "*Because of the shortened time, we were highly stressed and don't know how we are going to know the things*".

> "*We do our degrees quite practical – very practical based; and I found it quite hard to teach myself that stuff, and we have had like limited time*".

Another student noted that patients were afraid to visit the clinic during the pandemic, thus reducing their ability to gain the requisite WIL hours. She said:

> "*People don't want to come into [the] clinic, and also, our hours in the clinic are reduced*".

> *"With homeopathy, we have a lot of patient numbers that we had to make, and we really struggled to make this ... we had to go to different places. I had to go to a rural clinic … going there with everything that was going on to finish my patient numbers was so stressful because I was by myself, and I had so much of anxiety".*

As evidenced in the excerpts above, the students lost valuable learning opportunities either because WIL was suspended or because less patients visited the health facilities. The South African scenario mirrors countries like Canada and Australia, where thousands of WIL students had to rapidly shift to working remotely or were dismissed from their WIL experience. As mentioned above, the students experienced stress and anxiety at having to re-envisage WIL activities to meet the nuances of *in situ* placements. Others were forced to source patient numbers in rural areas to meet the formal requirements of their respective degrees. Lucas ***et al.,*** (2021) echoed that the primary concern was managing or limiting WIL-related risks such as placement losses, emotional distress of students due to unsuitable spaces for learning, and the ongoing viability of WIL as an authentic and collaborative pedagogy. The risks in some circumstances inevitably affected intended learning outcomes.

Despite completing their requisite patient numbers, students expressed that they lost valuable opportunities to practice certain physical examination procedures or acquire practice-based knowledge, as follows:

> *"Our patient numbers were done eventually, but it wasn't the same; instead of being able to do physical exams on the patients, we would have to just do their vitals. It limited our ability to properly diagnose, because we couldn't do a chest exam, we couldn't do a cardiovascular exam, even anything abdominal because we were not touching patients at that time. So, I would say that we lack a lot of practice in terms of physical exams and lack broad practice knowledge related to certain modules".*

The students felt that having to do WIL online denied them practice-based experiences, as noted below:

> "*It has been a bit tough having to do practical work online, because our course is mainly practical based, and we need to learn with people".*

This further impacted on assessments, with students saying:

> "*Especially with having gaps in our subjects since we haven't been able to go to campus, especially practicals, so you feel a bit inadequate when you go into tests or practicals, it's been a scary experience*".

A study conducted in nine nursing schools in Belgium found that the COVID-19 pandemic had also affected clinical placement planning for less than half of the students; the clinical placement site changed once for 36.09% of students (*n* = 240) and, for 9.17% of the students (*n* = 61), the pandemic resulted in several site changes. Despite the COVID-19 pandemic, 54.74% of the students (*n* = 364) could continue their clinical placement as planned (Ulenaers *et al.,* 2021). Similar to the data in this study, other students regretted that there were fewer learning opportunities and that the limited time made some competences impossible to attain (*e.g.*, complex wound care) (Ulenaers *et al.,* 2021).

As indicated, the varied disruptions caused considerable stress and anxiety amongst the students, especially because of the lack of ample learning opportunities in their respective disciplines or unpreparedness for their practicals. Other studies indicated high levels of anxiety, and a lack of motivation in relation to their learning. The literature also identified that clinical students experience higher levels of anxiety compared to the general population (Simpson & Sawatzky, 2020).

In addition, an Indian study of university students (Chandra, 2021) reported that uncertainties around progression and assessment in their academic programme had an impact on students' mental health, with similar findings among clinical students in China. A study conducted in an Australian university found that students raised concerns about successfully completing their course and feeling underprepared for theoretical and practical skills assessment (Rasmussen *et al.,* 2022).

Melincavage (2011) mentioned that clinical placements can be a challenging part of training, as students struggle to integrate into teams, define their professional self, and face insecurities and anxieties about their competence. Clinical placement anxiety has been defined as

> "[A] vague perceived threat to a student's goals or expectations in clinical practice, due to the presence of stressors, including unfamiliar environments or situations, resulting in psychological, physiological, and behavioural responses, and which, in turn may have a negative impact on the student's clinical outcomes" (Simpson & Sawatzky, 2020).

Hence, without the requisite support, students' learning abilities are undeniably compromised (Grobecker, 2016). Studies related to anxiety among health professionals during the COVID-19 pandemic further entrenches the need for students to be heard, prepared, and supported (Shanafelt, Ripp & Trockel, 2020).

The lack of face-to-face supervision due to clinical supervisors not being able to travel to WIL sites, made coaching impossible. The combination of an uncertain and stressful environment and impaired support inevitably jeopardised students' learning outcomes (Guzik et al., 2021).

As in the current study, other researchers have also reported students' frustrations with regards to university expectations, especially in terms of learning objectives during clinical placement, even though they often experienced fewer learning opportunities due to changes in their clinical placement site (Kovačević *et al.,* 2021). Students indicated that nursing schools needed to provide structured and unambiguous information about learning objectives and safety measures in a timeous manner but understood the exceptional and uncertain circumstances that prohibited it (Morin, 2020).

Students from nine universities in Belgium were asked how the COVID-19 situation affected their learning experience. Almost half of the sample – 52.63% of the students (*n* = 350) – stated that they experienced it as enriching within their training; 19.85% of the students (*n* = 132) described it as a limitation; and the rest (27.52%, *n* = 183) were neutral (Ulenaers *et al.,* 2021). Those who saw it as enriching believed that they were able to deal with challenges because they were well supervised by preceptors when performing, felt safe, and witnessed strong teamwork (Leigh *et al.,* 2020). However, for most other students, the clinical placement during the COVID-19 pandemic was found to be demanding, and the students described it as busy, insecure, hectic, difficult, infernal, rare, emotional, overwhelming, heavy, stressful, weird, unsafe, and psychologically stressful (Shaw, 2020).

Furthermore, the students expressed that there were little to no opportunities for practising technical nursing skills and, as in the current study, several students reported that a site change from a hospital unit to a nursing home, where there were fewer opportunities to practise technical nursing skills, created much stress for them. Given that the nurses themselves shifted between units made it more difficult to support students in their learning process (Ulenaers *et al.,* 2021). Overall, the students feared that the pandemic period would affect their competencies (Ulenaers *et al.,* 2021).

4.2 Theme 2: Personal fear and anxieties regarding the coronavirus during WIL

Another important theme that emerged was the fear students experienced of becoming infected by COVID-19 during their WIL placements. Additionally, some students expressed fear that they had infected their loved ones, as they had to undertake their placements at the height of the pandemic. They said:

> "*It was scary because at the beginning of my practical, my granny and my parents tested positive and were all at the hospital and weren't doing too well, … I had been doing my practical rounds and this was scary because I don't want to infect them again and go through all of that again*".

> "There *was a breakout in the ward with the patients and a lot of patients had to go home, but I didn't get any symptoms. But it was scary because what if I'm just asymptomatic and I'm spreading it and giving it to my family*".

> "*When we started doing our WIL rotation, I got COVID at the time that we were there, that was really scary, … there wasn't a lot of information on what to do when it comes to if we got COVID or you got exposed or what to do when you get home".*

> "*I've had COVID because I'm in the medical field [and because] I'm treating COVID patients daily. It has been scary, and I have infected one of my family members as well with COVID*".

As mentioned above, students experienced psychological distress due to the potential of contracting COVID-19 during WIL. Chew *et al.,* (2020) supported this, saying that the response of healthcare workers to an epidemic of infectious diseases is complex, and sources of distress can include feelings of vulnerability; loss of control and concerns about one's health; and the possibility of being infected from colleagues or patients and spreading the virus to others, including family, children, and the elderly.

Furthermore, the high rate of transmission and uncertainties surrounding transmission of COVID-19 added to students concerns and fears. Whilst it is commonly recognised that droplet transmission is the primary mode of transmission, the virus has also been found on surfaces like doors and personal items, causing healthcare workers to become more anxious (Elsharkawy & Abdelaziz, 2021). The fact that students were faced with having to do WIL at health facilities where they could potentially encounter patients with COVID-19, exacerbated their fears. They expressed this as follows:

> "*It was a bit terrifying at first, because it's a hospital environment*".

> *"You get anxious. I'm going to be dealing with people that possibly have COVID every day and it was stress[ful], but then it's a matter of, I have to go because I have to do WIL*".

Their clinical experience was also threatened by these fears as students were afraid of working with COVID-19 positive patients.

> "*It was very scary, when you would have patients with COVID. I personally didn't want to go into the ward, I didn't want to touch them and, as a clinician, you should never be afraid to touch a patient".*

> *"There was a lot of negligence in the hospital where COVID isolations were sent to the department instead of being placed in a specific ward, and you wouldn't know, and there'll be people that are suspected of having COVID-19 sitting with everyone else – the place is busy*".

Other students indicated that they did not have to interact with COVID-19 patients during WIL.

> "*They kept me from getting in contact with the patients in the COVID ward. This made me feel more comfortable and more secure*".

As noted above, the students experienced fear of working with COVID-19 positive patients, and some even mentioned that they did not want to work with these patients. The literature reflects that for most students, clinical placements occurred in a unit without SARS-CoV-2 infected patients (54.59%, *n* = 363). Some students indicated that they were unaware whether patients with a proven SARS-CoV-2 infection were present at their clinical placement unit (11.28%, *n* = 75). Most students were not actively involved in the care for COVID-19 patients (*n* = 446, 67.07%). Surprisingly, 8.72% (*n* = 58) of the respondents indicated that they did not know if they were actively involved in the care of COVID-19 patients (Ulenaers *et al.,* 2021). Crompton *et al.,* (2020) reported concern amongst students returning to placement, particularly those who live with at-risk family members. Those not wishing to return also had a statistically significantly higher level of perceived personal risk compared to those who wished to return, highlighting the concern about risk to self.

4.3 Theme 3: Inability to cope with suffering and loss

Many students witnessed pain and suffering and felt unprepared for the stark realities that they had to confront during WIL. One expressed helplessness at how to deal with a patient who could pass on.

> "*I felt that no matter how much reading I was doing, no matter how much contact I was having with clinicians, they didn't know enough, because if somebody can get infected with COVID and die. I felt like I was not prepared to deal with that emotionally*".

Others expressed their own personal pain at having to witness the huge number of deaths and pain whilst at WIL.

> "*It's been such a, like a surreal experience where you just experienced so much pain and you're in it alone, and you would be witnessing so much of pain and suffering and death*".

> "We *are just so aware of the pain and loss".*

The responses reflected a significant amount of anxiety, fear, and uncertainty related to the pandemic, including their perspectives on the impacts on work, home, family, and the community. There was considerable difficulty for staff adjusting to the changing conditions brought about by the pandemic. For some, this meant being redeployed to another hospital department to boost staffing numbers in an area of need. Fast-track training was used to upskill nurses to work in higher acuity areas in anticipation of an influx of seriously ill patients (Digby *et al.,* 2021).

There was a great deal of anxiety about the possibility of catching the virus at work and potentially suffering severe consequences or spreading it to their families and the wider community. Junior medical staff and administrative staff were particularly concerned that they were being exposed to an unacceptable risk. PPE was in limited supply at times, and there was some confusion about the specific equipment required to be worn in different areas for differing purposes (Newman, Jeve & Majumder, 2021). Communication about the requirements appeared to change frequently. Some non-clinical staff in contact with patients or the public felt that the risk they were exposed to was inadequately assessed and that they should have similar access to PPE as clinicians. Nurses working in COVID-19-positive isolation rooms were required to wear full protective outfits for the whole shift. They reported that it was often unpleasant, restrictive, and isolating (Digby *et al.,* 2021).

Initially, the hospital infrastructure was not equipped with enough space for the change rooms, lunchrooms, and isolation rooms required for the altered conditions (Kim, 2020). Makeshift solutions were found or built in some instances, but staff felt that not all their requirements were met. Staff movement around the hospital was restricted to specific areas, and some found their workplace very confining when unable to leave the hospital during breaks. They feared mostly for their own health and survival and that of their families but were also fearful of the consequences for the population globally (Digby *et al.,* 2021).

Montemurro (2020) argued that infectious disease outbreaks such as COVID-19 can cause acute emotional distress and anxiety even amongst people who are not at high risk of getting sick. This was mirrored in the data in the current study.

4.4 Theme 4: Encountering COVID-19 at the placement

Students expressed fears over the risks experienced at their WIL sites as follows:

> "*Where I'm going for clinical training there's a room of doctors, they often don't have their mask on … just last week two of them tested positive, and I feel like there's a sense of negligence regarding wearing masks and COVID protocol*".

> "*I've just heard from other people where we were X-raying our patients … apparently that patient had COVID, and it was only realised later that this patient had COVID, and everyone was asking to X-ray [the] patient in this condition and there are so many patients*".

> *"Although we don't go to the wards… it's a matter of the patients touching everything – all the equipment – and then we also have to touch that, and then I guess that's how the COVID sorts of spread, and then the other patients also have to come in*".

Others expressed concern that they were not provisioned with adequate protective gear during WIL. They said:

> "*Sometimes we are forced to wear one surgical mask for several days*, *the quality often left much to be desired*".

> "*The school should check if the facility where we complete our clinical placement has enough protective equipment*".

An additional stressor for students was the unavailability of PPE. This was evident in other studies, where at several clinical sites there appeared to be a shortage of PPE, so students had to use the same surgical mask for an entire shift or even during several days (Cohen & van der Meulen Rodgers, 2020). Students felt that schools should take responsibility to check whether students have access to sufficient protective material and, if necessary, provide this for their students (Michel *et al.,* 2021).

As in the current study, other studies have found that although most students (67.07%) were not actively involved in the care of COVID-19 patients, there was a certain degree of fear of becoming infected, which increased if students were involved in the care of COVID patients (Nabe-Nielsen *et al.,* 2021). This fear is intensified by the lack of sufficient PPE, which raised questions about the responsibilities of academic departments to keep their students safe. However, as Cervera-Gasch *et al.,* (2020) expressed, such concerns should not stop students from taking up their internship with full dedication.

The measures implemented at other clinical sites such as testing healthcare providers and providing psychological support, are not always applicable to students (Rana, Mukhtar & Mukhtar, 2020). As observed in the current study, this was a concern as many students work full-time during their clinical internships and are just as exposed to the virus and additional stressors as other employed health care practitioners. Clinical sites should therefore, in conjunction with the nursing schools, pay sufficient attention to the health and well-being of students (Ulenaers *et al.,* 2021).

4.5 Theme 5: Lack of preparedness for and debriefing post WIL

Several students expressed that they also felt unprepared to deal with the fears and anxieties of patients that they encountered at their placement.

> *"One of the things I really struggled with was when you have a patient sitting in front of you, who is so worried and so stressed out because so many of their loved ones or friends or family have passed away and now are sitting with COVID symptoms. You as a clinician, you have to be able to talk them out of that spiral and calm them down as well, and there was no training on that, and it was very stressful".*

> "*Personally speaking, I don't think we are prepared. We just go in doing what we know in terms of cleaning up if a patient is found COVID positive; these situations I'm just not prepared for*".

> "*There was no real briefing. We were given face shields to wear, and we were told to have our masks on, but no one briefed us on how to deal with a COVID patient or even emotionally".*

One participant, as noted below, suggested the importance of workshops:

> "*A workshop teaching us how to deal with COVID-19 and patients and a protocol as a whole, …it would make us more prepared for future situations*".

Another participant expressed the need for academic departments to facilitate debriefing sessions post the WIL placements:

> "*Debriefing on COVID was missing, because the department has not explained what to do if we are in contact with someone who is positive; it was basically going for your internship, and then whatever happens thereafter, I guess you going to speak to whoever is in charge of the lab that you are at".*

Students, as noted in other studies, experienced this period as physically and mentally stressful, with some feeling that supervisors did not sufficiently recognise or appreciate their work (Hernández-Martínez *et al.,* 2021). Whilst students were aware of the exceptional circumstances wrought by the pandemic and that uncertainty was difficult to avoid, failure to inform students about potentially infected patients and infected staff, and the measures being taken at clinical sites for testing health care providers, were issues of concern (Ulenaers *et al.,* 2021).

Even during normal circumstances, students are prone to developing anxiety. To ensure positive learning outcomes, pre-clinical training sessions, (digital) coaching, and support from the university academic supervisor are crucial. The recently conceptualised notion of clinical placement anxiety offers an underpinning for the development of educational strategies that can prevent and manage student anxiety during clinical placements effectively (Simpson & Sawatzky, 2020).

In addition, experience gained in previous pandemics shows that the severe psychological stress experienced by healthcare workers in the frontline can remain long after the pandemic has passed (Wallace *et al.,* 2020). Fear of transmitting the virus to family, community perception of frontline workers as potential disease carriers, extreme workloads, limited availability of PPE, and moral dilemmas contribute to the mental burden of these healthcare workers (Pappa *et al.,* 2020).

4.6 Theme 6: University support

Several students expressed that they also felt they required some university support to handle issues related to COVID-19 and their placements.

> "*I think that just having support or somewhere that students can go, even if it's telephonic or where they can seek counselling, … specific to each different faculty, … even with us, I think some kind of COVID briefing and how to deal with your patients would have been helpful. I think that basically when you go through loss, it's very important for you to receive counselling because as a physician, I understand people say we're the wounded healers, but you need to be able to look after yourself and make sure you're okay before you look after somebody else. If that makes sense*".

> "*Having support groups, offering individual counselling …we are not vigilant with the COVID protocol … the university putting up banners to create that awareness*".

Clearly the students felt there was a need for greater mental health support during the pandemic. Students also felt that the university could do more to raise awareness and prepare them for working in placements where COVID -19 was more prominent. This was noted in other studies as well where students expressed the need for more psychosocial support, establishing (regular) contact with their clinical placement supervisor, recognition of the difficult work situation, and the need for more space to unwind (Sneyd *et al.,* 2020). Dean and Campbell (2020) suggested that different models and approaches could still capture the true essence of work tasks, thus challenging the prevailing perspectives and practices in designing and implementing Work-Integrated Learning (WIL). Moreover, Hodges and Martin (2020) stated that supervisors should establish clear expectations, professional communication standards, and safe practices, while outlining the value proposition for students. The learning experience should be co-created by students and supervisors, fostering flexibility and adaptability to suit student needs. Often, emotional immersion takes precedence over physical presence, emphasising student-driven interaction, discussion, and collaboration. Critical reflection's importance should also be highlighted.

5. Limitations

The present study consisted of a limited sample as it only focused on students in the Faculty of Health Sciences at the Durban University of Technology. As a result, the generalisation of the study's findings is limited. Although the sample is small, the value and nature of in-depth qualitative research offers preliminary insights of what the students experienced with regard to their WIL during the COVID-19 pandemic.

6. Conclusion & recommendations

This study sought to explore students' experiences of WIL during the COVID-19 pandemic. The results of the study revealed that the COVID-19 pandemic disrupted normal academic life and produced a great deal of uncertainty and fear, especially among university students at WIL placements. The pandemic greatly affected the WIL component of all students in the Faculty of Health Sciences. In particular, the students were faced with anxieties and fears related to the lack of WIL training due to the pandemic, which limited their ability to learn essential skills for the workplace as well as achieve the necessary WIL hours to complete the relevant practical modules.

It is within this context that this study recommends that critical issues such as the lack of preparedness and coping mechanisms to deal with covid-19 during work integrated learning, be addressed to ensure that students are comfortable and achieving the necessary outcomes of their WIL training. Moreover, there is a need for greater academic and psychological support during their WIL placements through the provision of proper mental health services as well as feedback mechanisms between academics and students to share the experiences of working in a COVID-19 environment and suggestions for dealing with it. Finally, suggestions are made for support structures be put in place by the university to address the concerns highlighted in the study, such as greater mental health support and more involvement from the university in WIL placements. Recommendations for further research include exploring strategies for supporting the mental health of students during WIL, as well as to re-evaluate policy and guidelines for WIL in terms of preparedness and assessment of WIL during a pandemic.

References

Braun, V., Clarke, V., Hayfield, N., & Terry, G. 2020. *Thematic analysis: A reflective approach.* Auckland, New Zealand: University of Auckland.

Carmody, C., Duffy, S., Brown, L., & Del Fabbro, L. 2020. Preparing for work-integrated learning during COVID-19: How a new virtual orientation tool facilitated access for all. *International Journal of Work-Integrated Learning*, 21(5): 545-557. https://eric.ed.gov/?id=EJ1271576

Cervera-Gasch, Á., González-Chordá, V.M. and Mena-Tudela, D., 2020. COVID-19: Are Spanish medicine and nursing students prepared? *Nurse Education Today*, *92*: 104473. https://doi.org/10.1016/j.nedt.2020.104473

Chandra, Y., 2021. Online education during COVID-19: perception of academic stress and emotional intelligence coping strategies among college students. *Asian Education and Development Studies*, *10*(2): 229-238. https://doi.org/10.1108/AEDS-05-2020-0097

Chew, Q.H., Wei, K.C., Vasoo, S., & Sim, K. 2020. Psychological and coping responses of health care workers toward emerging infectious disease outbreaks: a rapid review and practical implications for the COVID-19 pandemic. *Journal of Clinical Psychiatry*, 81(6): 16119. https://www.psychiatrist.com/jcp/psychological-responses-of-health-care-workers-toward-infectious-disease-outbreaks-implications-for-the-covid-19-pandemic/. https://doi.org/10.4088/JCP.20r13450

Cohen, J., & van der Meulen Rodgers, Y. 2020. Contributing factors to personal protective equipment shortages during the COVID-19 pandemic. *Preventive Medicine*, 141: 106263. https://doi.org/10.1016/j.ypmed.2020.106263

Cope, D.G., 2014, January. Methods and meanings: Ccredibility and trustworthiness of qualitative research. *Oncology Nursing Forum* 4(1). https://onf.ons.org/system/files/journal-article-pdfs/N0V3P50410151231.pdf

Crompton, H., Bernacki, M. and Greene, J.A., 2020. Psychological foundations of emerging technologies for teaching and learning in higher education. *Current Opinion in Psychology*, 36: 101-105. https://doi.org/10.1016/j.copsyc.2020.04.011

Dean, B.A., & Campbell, M. 2020. Reshaping work-integrated learning in a post-COVID-19 world of work. *International Journal of Work-Integrated Learning*, 21(4): 355-364. https://eric.ed.gov/?id=EJ1271541

Digby, R., Winton-Brown, T., Finlayson, F., Dobson, H., & Bucknall, T. 2021. Hospital staff well-being during the first wave of COVID-19: Staff perspectives. *International Journal of Mental Health Nursing*, 30(2): 440-450. https://doi.org/10.1111/inm.12804

Du Plessis, J., 2019. Stakeholders' viewpoints on work-integrated learning practices in radiography training in South Africa: Towards improvement of practice. *Radiography*, *25*(1): 16-23. https://doi.org/10.1016/j.radi.2018.06.011

Elsharkawy, N.B., & Abdelaziz, E.M., 2021. Levels of fear and uncertainty regarding the spread of coronavirus disease (COVID-19) among university students. *Perspectives in Psychiatric Care*, *57*(3): 1356-1364. https://doi.org/10.1111/ppc.12698

Grobecker, P.A. 2016. A sense of belonging and perceived stress among baccalaureate nursing students in clinical placements. *Nurse Education Today*, 36: 178-183. https://doi.org/10.1016/j.nedt.2015.09.015

Guzik, A.K., Martin-Schild, S., Tadi, P., Chapman, S.N., Al Kasab, S., Martini, S.R., Meyer, B.C., Demaerschalk, B.M., Wozniak, M.A. and Southerland, A.M., 2021. Telestroke across the continuum of care: lessons from the COVID-19 pandemic. *Journal of Stroke and Cerebrovascular Diseases*, 30(7): 105802. https://doi.org/10.1016/j.jstrokecerebrovasdis.2021.105802

Hennink, M., Hutter, I., & Bailey, A. 2020. *Qualitative research methods*. Sage.

HEQC. 2004. *Criteria for programme accreditation*. Pretoria: Council on Higher Education

Hernández-Martínez, A., Rodríguez-Almagro, J., Martínez-Arce, A., Romero-Blanco, C., García-Iglesias, J.J., & Gómez-Salgado, J. 2021. Nursing students' experience and training in healthcare aid during the COVID-19 pandemic in Spain. *Journal of Clinical Nursing*. https://doi.org/10.1111/jocn.15706

Hodges, L.D., & Martin, A.J. 2020. Enriching work-integrated learning students' opportunities online during a global pandemic (COVID-19). *International Journal of Work-Integrated Learning*, 21(4): 415-423. https://eric.ed.gov/?id=EJ1271537

Iipinge, S.M., Batholmeus, P.N., & Pop, C., 2020. Using simulations to improve skills needed for work-integrated learning before and during COVID-19 in Namibia. *International Journal of Work-Integrated Learning*, 21(5): 531-543. https://eric.ed.gov/?id=EJ1271588

Kay, J., McRae, N., & Russell, L. 2020. Two institutional responses to work-integrated learning in a time of COVID-19: Canada and Australia. *International Journal of Work-Integrated Learning*, 21(5): 491-503. https://eric.ed.gov/?id=EJ1271564

Khlaif, Z.N., Salha, S. and Kouraichi, B., 2021. Emergency remote learning during COVID-19 crisis: Students' engagement. *Education and Information Technologies*, 26(6): 7033-7055. https://doi.org/10.1007/s10639-021-10566-4

Kim, T. 2020. Improving preparedness for and response to coronavirus disease 19 (COVID-19) in long-term care hospitals in Korea. *Infection & Chemotherapy*, 52(2): 133. https://doi.org/10.3947/ic.2020.52.2.133

Kolb, D.A., 2014. *Experiential learning: Experience as the source of learning and development*. FT press.

Kovačević, I., Labrović, J.A., Petrović, N., & Kužet, I. 2021. Recognizing predictors of students' emergency remote online learning satisfaction during COVID-19. *Education Sciences*, 11(11): 693. https://doi.org/10.3390/educsci11110693

Landa, N., Zhou, S. and Marongwe, N., 2021. Education in emergencies: Lessons from COVID-19 in South Africa. *International Review of Education*, *67*(1): 167-183. https://doi.org/10.1007/s11159-021-09903-z

Larkin, I., & Beatson, A. 2014. Blended delivery and online assessment: Scaffolding student reflections in work-integrated learning. *Marketing Education Review*, 24(1): 9-14. https://doi.org/10.2753/MER1052-8008240101

Lee, J., Solomon, M., Stead, T., Kwon, B., & Ganti, L., 2021. Impact of COVID-19 on the mental health of US college students. *BMC psychology*, *9*(1): 95. https://doi.org/10.1186/s40359-021-00598-3

Leigh, J.A., Bolton, M., Cain, K., Harrison, N., Yates-Bolton, N.J., & Ratcliffe, S.M. 2020. Student experiences of nursing on the front line during the COVID-19 pandemic. *British Journal of Nursing*, 29(13): 788-789. https://doi.org/10.12968/bjon.2020.29.13.788

Liamputtong, P. and Ezzy, D., 2005. *Qualitative research methods. Second*. Melbourne: Oxford University Press.

Lincoln, Y. S. 1994. Emerging criteria for quality in qualitative and interpretive research. Keynote address presented at the annual meeting of the American Educational Research Association, San Francisco

Lucas, P., Wilkinson, H., Rae, S., Dean, B., Eady, M., Capocchiano, H., Trede, F., & Yuen, L. 2021. Knowing me, knowing you: Humanitas in work-integrated learning during adversity. *Journal of University Teaching and Learning Practice*, 18(7): 159-176. https://doi.org/10.53761/1.18.7.10

Melincavage, S.M. 2011. Student nurses' experiences of anxiety in the clinical setting. *Nurse Education Today*, 31(8): 785-789. https://doi.org/10.1016/j.nedt.2011.05.007

Merisi, P.O., Emekako, R., Legg-Jack, D.W., Mpundu, M. & Lubombo, M., 2022. Asynchronous pre-service teaching practicum and work-integrated learning amid COVID-19 pandemic. *International Journal of Social Sciences & Educational Studies*, 9(1): 190-206. https://doi.org/10.23918/ijsses.v9i1p190

Michel, A., Ryan, N., Mattheus, D., Knopf, A., Abuelezam, N.N., Stamp, K., Branson, S., Hekel, B., & Fontenot, H. B. 2021. Undergraduate nursing students' perceptions on nursing education during the 2020 COVID-19 pandemic: A national sample. *Nursing Outlook*, 69(5): 903-912. https://doi.org/10.1016/j.outlook.2021.05.004

Mncube, V., Mutongoza, B.H. & Olawale, E., 2021. Managing higher education institutions in the context of COVID-19 stringency: Experiences of stakeholders at a rural South African university. *Perspectives in Education*, 39(1): 390-409. https://hdl.handle.net/10520/ejc-persed_v39_n1_a24. https://doi.org/10.18820/2519593X/pie.v39.i1.24

Montemurro, N., 2020. The emotional impact of COVID-19: From medical staff to common people. *Brain, Behavior, and Immunity*, 87: 23. https://doi.org/10.1016/j.bbi.2020.03.032

Morin, K. 2020. Nursing education after COVID-19: Same or different? *Journal of Clinical Nursing,* 29(17-18): 3117-3119. https://doi.org/10.1111/jocn.15322

Morris, T.H., 2020. Experiential learning–a systematic review and revision of Kolb's model. *Interactive Learning Environments*, 28(8): 1064-1077. https://doi.org/10.1080/10494820.2019.1570279

Newman, K.L., Jeve, Y., & Majumder, P. 2021. Experiences and emotional strain of NHS frontline workers during the peak of the COVID-19 pandemic. *International Journal of Social Psychiatry*, 68(4): 783-790. https://doi.org/10.1177/00207640211006153

Pappa, S., Ntella, V., Giannakas, T., Giannakoulis, V.G., Papoutsi, E., & Katsaounou, P. 2020. Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. *Brain, Behavior, and Immunity*, 88: 901-907. https://doi.org/10.1016/j.bbi.2020.05.026

Pokhrel, S., & Chhetri, R. 2021. A literature review on impact of COVID-19 pandemic on teaching and learning. *Higher Education for the Future*, 8(1): 133-141. https://doi.org/10.1177/2347631120983481

Pretti, T.J., Etmanski, B., & Durston, A. 2020. Remote work-integrated learning experiences: Student perceptions. *International Journal of Work-Integrated Learning*, 21(4): 401-414. https://eric.ed.gov/?id=EJ1271299

Raj Kumar, C. & Mittal, P., 2020. COVID-19 response tool kit for Indian higher education institutions.https://www.aiu.ac.in/documents/index/COVID-19%20Response%20Toolkit%20for%20Indian%20Higher%20Education%20Institutions.pdf

Rana, W., Mukhtar, S., & Mukhtar, S. 2020. Mental health of medical workers in Pakistan during the pandemic COVID-19 outbreak. *Asian Journal of Psychiatry*, 51: 102080. https://doi.org/10.1016/j.ajp.2020.102080

Rasmussen, S.A., and Jamieson, D.J., 2022. COVID-19 Vaccination during Pregnancy—Two for the Price of One. *New England Journal of Medicine*, *387*(2): 178-179. https://doi.org/10.1056/NEJMe2206730

Rowe, A. D., Jackson, D., & Fleming, J. 2021. Exploring university student engagement and sense of belonging during work-integrated learning. *Journal of Vocational Education and Training*, 1-22. https://doi.org/10.1080/13636820.2021.1914134

Shanafelt, T., Ripp, J., & Trockel, M. 2020. Understanding and addressing sources of anxiety among health care professionals during the COVID-19 pandemic. *Jama*, 323(21): 2133-2134. https://doi.org/10.1001/jama.2020.5893

Shaw, S.C. 2020. Hopelessness, helplessness and resilience: The importance of safeguarding our trainees' mental wellbeing during the COVID-19 pandemic. *Nurse Education in Practice*, 44: 102780. https://doi.org/10.1016/j.nepr.2020.102780

Simpson, M.C.G., & Sawatzky, J.A.V. 2020. Clinical placement anxiety in undergraduate nursing students: a concept analysis. *Nurse Education Today*, 87: 104329. https://doi.org/10.1016/j.nedt.2019.104329

Sneyd, J.R., Mathoulin, S.E., O'Sullivan, E.P., So, V.C., Roberts, F.R., Paul, A.A., Cortinez, L.I., Ampofo, R.S., Miller, C.J., & Balkisson, M.A. 2020. Impact of the COVID-19 pandemic on anaesthesia trainees and their training. *British Journal of Anaesthesia*, 125(4): 450-455. https://doi.org/10.1016/j.bja.2020.07.011

Stiegler, N. & Bouchard, J.P., 2020, September. South Africa: Challenges and successes of the COVID-19 lockdown. In *Annales Médico-psychologiques, Revue psychiatrique* 178(7): 695-698. Elsevier Masson. https://doi.org/10.1016/j.amp.2020.05.006

Tutty, L.M., Rothery, M.A., & Grinnell, R.M. 1996. *Qualitative research for social workers: Phases, steps, & tasks*. Allyn and Bacon.

Ulenaers, D., Grosemans, J., Schrooten, W., & Bergs, J. 2021. Clinical placement experience of nursing students during the COVID-19 pandemic: A cross-sectional study. *Nurse Education Today*, 99: 104746. https://doi.org/10.1016/j.nedt.2021.104746

Wallace, C.L., Wladkowski, S.P., Gibson, A. and White, P., 2020. Grief during the COVID-19 pandemic: considerations for palliative care providers. *Journal of Pain and Symptom Management*, *60*(1), e70-e76. https://doi.org/10.1016/j.jpainsymman.2020.04.012

Weeden, K.A. & Cornwell, B., 2020. The small-world network of college classes: implications for epidemic spread on a university campus. *Sociological Science*, 7: 222-241. https://doi.org/10.15195/v7.a9

Zegwaard, K.E. 2015. Building an excellent foundation for research: Challenges and current research needs. Special issue: *Asia-Pacific Journal of Cooperative Education*, 16(2): 89-99. https://files.eric.ed.gov/fulltext/EJ1113538.pdf

Zegwaard, K.E., Pretti, T.J. & Rowe, A. 2020. Responding to an international crisis: The adaptability of the practice of work-integrated learning. *International Journal of Work Integrated Learning,* 21(4): 317-330. https://files.eric.ed.gov/fulltext/EJ1271542.pdf