Research



# The impact of the COVID-19 lockdown on the learning experiences of optometry students at a South African university

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**Background.** Optometry students are primarily trained using didactic lectures, supported by essential in-person practical training to enable transfer of clinical skills. However, the COVID-19 pandemic and subsequent lockdown measures forced universities worldwide to move to online learning. The disruption to teaching and learning caused by lockdown measures significantly changed the way optometry students experienced both teaching and learning.
**Objective.** To understand optometry students' learning experiences during the COVID-19 lockdown.
**Methods.** This qualitative study employed purposive sampling to explore the learning experiences of optometry students during the COVID-19 lockdown. Data were collected through virtual focus group interviews, utilising a semi-structured interview guide. Data were anonymised, transcribed and thematically analysed using conventional content analysis.
**Results.** A total of 13 students in the second, third and fourth years of study participated in the study. The analysis revealed four key themes, namely: 'Personal and peripheral influences', 'Environmental and organisational limitations', 'Direct barriers to the new online teaching and learning platform' and 'Student perceptions on the way forward for teaching and learning'.
**Conclusion.** Preparedness for abrupt shifts to online learning is crucial for maintaining quality learning outcomes. In optometry a hybrid approach that integrates both online learning with in-person training is recommended during times of major disruptions, to ensure that essential clinical competence is developed and that students have continued access to peer support.
**Keywords:** optometry; COVID-19; online learning.

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The COVID-19 pandemic and the subsequent protracted lockdown measures implemented globally to curb the spread of the disease affected many facets of society, yielding both positive and negative effects. Contrasting outcomes were observed, for e.g. the technology industry flourished while contact-dependent businesses, particularly those in the hospitality sector, faced significant challenges.[1] The Higher Education sector in South Africa (SA), which has primarily been contact-dependent, was forced to rapidly reconfigure its approach to teaching and learning, diverting from conventional modalities in order to sustain its academic mission. As such, a shift to online learning was widely adopted by universities nationally.[2]

Health science students, including those in optometry, are primarily trained through teacher-led, didactic lectures which are later complimented by essential practical training aimed at imparting clinical skills necessary for professional practice.[3]Clinical training is often further supported by experiential learning during the undergraduate years. With pandemic lockdown measures in place, optometry academics in SA were required to swiftly adapt their pedagogies to align with the shift to online learning.

Higher education in low- and middle-income countries is often burdened by economic, social, cultural, and contextual factors that place staff and students at a disadvantage compared with those inhigh-income countries. Adopting online learning as a primary mode for curriculum delivery, which is dependent on reliable internet and IT infrastructure, is often unrealistic. In SA, even before COVID-19, many students faced challenges related to access to technology.[2] This made the shift to online learning particularly difficult for students from rural areas with limited exposure to digital devices.

One of the core traits of the higher education sector is reflexive praxis,[4] which involves critical analysis of biases, practices and work methods. This study therefore aimed to answer the research question: '*What were the learning experiences of optometry students during the COVID-19 pandemic lockdown?*'

## Methods

A qualitative descriptive phenomenological approach was used to gain insight into optometry students' experiences of the impact of COVID-19 on learning in SA. The University of KwaZulu-Natal offers optometry training at the Westville Campus. The first two years focus on theoretical and practical studies with limited patient exposure, while the third and fourth years emphasise clinical training, allowing students to work with real patients under the supervision of qualified optometrists.

This approach was deemed suitable for exploring lived experiences in a context where understanding students' perceptions was essential.[5,6] The descriptive phenomenological design focuses on capturing the essence of participants' experiences while maintaining close adherence to their language and expressions.[7] It is particularly relevant in health professions education research, where subjective learning experiences and emotional responses play a critical role.[8] In this study, the design enabled the researchers to elicit detailed accounts of optometry students' educational transitions, challenges, and coping strategies during the COVID-19

pandemic. This phenomenological perspective facilitated exploration of how sudden changes in learning modalities, clinical exposure, and assessment shaped their academic and professional development within the SA higher education context.

### Study population and sampling strategy

The research was conducted between July 2021 and June 2022. A maximum variation purposive sampling method was used to recruit optometry students registered in the 2020/2021 academic years across all levels of training. Participants included male and female students over the age of 18, from diverse ethnic groups and with varying levels of experience within the programme. Only registered students who had successfully completed all modules in the preceding year of study were eligible to participate.

Participants were approached via institutional communication channels, including email invitations distributed through the class representatives and the optometry department's administrative office. The invitation letter outlined the purpose of the study, voluntary nature of participation, confidentiality assurances and contact details of the research team. Interested students contacted the research assistant directly to express their willingness to participate. Once eligibility was confirmed, participants were scheduled for focus group discussions according to their year of study. Recruitment continued until sufficient representation from each academic level was achieved.[9]

### Data collection

Three focus group discussions were conducted to explore students' lived experiences during their enrolment in the undergraduate optometry programme during the COVID-19 pandemic lockdown period. Each focus group coincided with one level of study. Levels two and four included four participants each, while level three comprised five participants. The discussions were conducted in English, the institutional medium of instruction.

A trained research assistant, independent of the academic staff and not involved in the teaching or assessment of participants, facilitated all focus group discussions. This approach was used to minimise potential power dynamics between students and lecturers and to enhance the openness of participant responses. The principal investigator (first author) supervised the data collection process and reviewed the recordings and transcripts for completeness and accuracy. To ensure reflexivity and reduce researcher bias, reflective notes were maintained throughout the data collection and analysis phases, and coding was verified through independent co-coding.[10,11] Although the open-ended questions guided the data collection process, discussions remained fluid to allow for trends and experiences to emerge naturally between students and interviewer.[12]

The questions covered students' experience of the optometry programme in general, online teaching and learning platforms, personal experiences during COVID-19 and lockdown, the influence of COVID-19 on their learning, as well as recommendations to improve teaching and learning during future crises such as the COVID-19 pandemic.

Data saturation was reached when no new themes, ideas or insights emerged from the final focus group discussion, indicating sufficient depth and breadth of the data.[9] Saturation was determined collaboratively by the research team through iterative reviews of transcripts and coded data, ensuring that participant perspectives were comprehensively represented.

### Data analysis

The recordings were transcribed verbatim, verified by a moderator, and sent to students for member checking. Data were analysed using Braun and Clarke's six-step thematic approach.[13] All authors contributed to generating codes, identifying themes and reaching consensus , with the lead author responsible for initial coding. To enhance the credibility and dependability of data analysis, a second independent co-coder (third author) was involved in the coding process. The co-coder was an experienced qualitative researcher with expertise in health sciences education but was not directly involved in data collection. Both coders independently reviewed and coded the transcripts, after which all authors met to compare and discuss codes until consensus was reached on the final themes. This process ensured analytical rigour and minimised researcher bias.[10,11] An audit trail and thick descriptions ensured the study's trustworthiness.

### Ethical considerations

Ethics approval was obtained from the University of KwaZulu-Natal Research Ethics Committee (ref. no. HSSREC/00002386/2021). Voluntary participation, informed consent and anonymity were ensured. Participants were informed of their right to withdraw, with no associated risks. Data were securely stored, accessible only to the authors, and will be destroyed after five years.

## Results and discussion

A total of 13 optometry students participated in the study, with three separate focus group interviews conducted.

The analysis revealed four main themes that encapsulated the learning experiences of optometry students' during the Covid-19 lockdown. These were:

I. Personal and peripheral influences;
II. Environmental and organisational limitations;
III. Direct barriers to the new online teaching and learning platform, and
IV. Student perceptions on a way forward for teaching and learning.

**Table 2** depicts the four themes as well as the sub-themes derived from the data.

### Theme I:

The theme of **personal and peripheral influences** encompasses both internal and external factors that affected students' learning during the COVID-19 lockdown. Internal factors, such as attitude, motivation, and outlook influenced student learning, while external factors like peer support, class dynamics, and staff morale also influenced the educational experience.

Students' personal internal posture either facilitated or impeded their learning. Many students cited intrinsic motivation as a key factor in maintinaing focus despite the challenges. One student shared, '*I think mostly*

**Table 1. Distribution of optometry students according to year of study.**

| Focus group | Year of study | Number of students |
|---|---|---|
| 1 | Level 3 | 5 |
| 2 | Level 4 | 4 |
| 3 | Level 2 | 4 |

*what kept me motivated is the fact that I don't come from a good background, so that makes me work harder… I need to work for a better future*'(Male, 22 years, Level 3, Black South African) Another explained, '*We had to adapt and learn, learn with our friends, learn whenever we got free time in the clinic*'(Female, 22 years, Level 4, Indian South African). These reflections suggest that intrinsic motivation helped students cope with learning challenges during the pandemic. This aligns with findings of a study in Indonesia where students remained motivated and kept moving forward, despite the limitations during COVID-19.[14]

However, some students experienced significant stress and anxiety, which reduced their engagement with online learning platforms. One student noted, '*When lockdown first started I didn't know how to study. I was very close to leaving the degree because of the stress*' (Female, 23 years, Level 3, Black South African). These findings are consistent with Wissmath *et al*.,[15] who noted increased psychological stress during the pandemic, complicating learning.

Peer support emerged as a significant external influence. Many students found comfort and motivation in the support of their classmates. One student stated, '*It helps to know that your friends are going through the same thing, and if you need help, your friends are there*'(Female student, level 4, Indian South African). The return to campus after restrictions were lifted further highlighted the importance of peer support. Students shared, '*Meeting fellow students and realizing we were all in the same boat motivated me to keep going*' (Female, 22 years, Level 4, Indian South African). These experiences underscore the positive impact of peer relationships on learning, particularly during periods of isolation in online environments. Furthermore, peer support has the potential to improve learning motivation and academic achievement.[16]

Additionally, some students highlighted the role of good staff morale in overcoming learning challenges. One student stated, '*Our relationships with lecturers impacted our degree. We learned so much from them*' (Male, 21 years, Level 3, Indian South African). This suggests that strong staff leadership plays a crucial role in student success,[17] and the lack of face-to-face interaction during the pandemic may have hindered this connection.

**Table 2. Themes and sub-themes.**

| Themes | Sub-themes |
|---|---|
| ***Personal and peripheral influences*** | Students internal posture (personal) |
| | Peer support (peripheral) |
| | Class dynamic (peripheral) |
| | Staff morale (peripheral) |
| ***Environmental and organisational limitations*** | Home environment challenges |
| | Data and connectivity impediments |
| | Compounding barriers |
| | Imposition of lack of real patients |
| ***Direct barriers to the new online teaching and learning platform*** | Students' perspectives of challenges in lockdown learning |
| | Staff challenges with new approach |
| | Assessment difficulties |
| ***Student perceptions on a way forward for teaching and learning*** | Modified teaching approach |
| | Staff development |
| | Improve patient exposure for practical skills development |
| | Improve communication between staff and students |

Students' online learning experiences were influenced by personal motivation and adaptability. Peer support played a significant role in mitigating feelings of isolation although its effectiveness was influenced by class dynamics. As reported by Galvin,[18] peer support can enhance the online learning experience through academic, practical or emotional support, as reflected in the experiences of optometry students in this study during the COVID-19 lockdown. Other factors also influenced motivation and shaped the overall experience. Motivation to learn is key to effective learning with the desire to succeed and a conducive learning environment among the influencing factors in this regard. Teaching methods have also been associated with levels of student motivation.[19] Pre-COVID research found that online learners often experience feelings of isolation from other class members, the instructor, their learning community and the wider university environment.[18]

In summary, the theme of Personal and Peripheral Influences highlights how students' internal motivation, emotional resilience, and adaptability played pivotal roles in shaping their learning experiences during the COVID-19 lockdown. External factors such as peer relationships, lecturer support, and staff morale either reinforced or undermined students' engagement with online learning. Together, these personal and contextual dynamics determined students' ability to cope with uncertainty, sustain motivation, and maintain academic continuity during a period of unprecedented disruption.

## Theme II:

The second theme, **Environmental and organisational limitations**, includes home environment challenges, data and connectivity issues, compounding barriers, and limited exposure to real patients during the pandemic.

### Home environment challenges

Many students struggled with distractions and responsibilities at home, which hindered their learning. One student shared, '*There's always distractions, like chores to do, while attending Zoom lectures*' (Female, 20 years, Level 2, Black South African). Another noted, '*We spend a lot of time doing housework, leaving us with limited study time*' (Female, 22 years, Level 3, Black South African). These findings indicate that competing home responsibilities impacted students' ability to prioritise learning.[20]

### Data and connectivity impediments

Data and connectivity issues posed significant barriers for many students, particularly those in rural areas. One student explained, '*We couldn't log in on time, and we couldn't get the necessary resources*' (Male, 20 years, Level 2, Indian South African). Another added, '*Some of my friends in rural areas didn't have connectivity, which affected their participation in lessons*' (Female, 22 years, Level 4, Indian South African). These issues highlight how disparities in access to technology exacerbated learning challenges.[21]

### Compounding barriers

Institutional barriers further compounded the difficulties students faced. One student described, '*We were already behind due to a strike at the beginning of the year, and then COVID-19 hit*' (Male, 21 years, Level 3, Indian South African). Another student shared, '*We didn't know if we were going to write exams or return to campus, and communication was unclear*' (Female, 20 years, Level 2, Indian South African). This lack of organisational clarity

and communication contributed to heightened anxiety and confusion among students.

Final-year students, in particular, felt '*robbed*' of their campus experiences. One student reflected, '*We lost out on many moments that we'll never get back because we couldn't fully experience campus life*' (Female student, Level 4, Indian South African) Another mentioned, '*We were the first-year students in 2020, so we didn't get to experience campus life like other students*' (Female, 20 years, Level 2, Indian South African).

**Imposition of lack of real patients**

A key challenge in optometry programs was the lack of clinical exposure to real patients, which hindered the development of practical skills. One student noted, '*We missed out on 7 to 9 months of practical work, which affected our competency*' (Female, 22 years, Level 4, Black South African). Another explained, '*When we returned to campus, there were social distancing measures that limited the number of patients we could see*' (Female, 22 years, Level 3, Indian South African). These constraints severely impacted students' clinical experience, essential for optometry≈training.

Remote learning during the COVID-19 lockdown confined students to their home environments, where distractions and household responsibilities hindered their online engagement. Students in rural areas faced limited access to online learning, missing valuable opportunities. These challenges compounded previous difficulties caused by student protests before the lockdown, further disrupting educational pursuit.[2] Many students felt deprived of the full university experience due to the absence of campus-based interactions. Poor communication from the university heightened stress, with concerns about academic suspension or institution closure. Additionally, the lack of clinical exposure hindered optometry students' clinical competence and their ability to meet training requirements.[22]

Limited access to the internet and a lack of motivation for online study were also idenitifed as contributing factors in the overall experience of Ukrainian students during the COVID-19 lockdown.[23] Additionally, Nenko highlighted the need for a strong communication plan and staff training when implementing remote learning.[23]

The importance of having a conducive, dedicated study environment was reiterated in other studies, where James *et al.*[24] found that having all household members confined at home during the COVID-19 lockdown placed pressure on study space, disrupting learning routines, and creating a stressful environment for many students.

## Theme III

The third theme, **Direct barriers to the new online teaching and learning platform** encompassed the following sub-themes: students' perspective of challenges in lockdown learning, staff challenges with new approach to teaching, and the barriers related to the new assessment methods.

**Students' perspectives on challenges in lockdown learning**

Many students felt unprepared for the shift to online learning. One student stated, '*I felt resources were limited, and some lecturers were hard on us. There was no room to lay complaints*' (Female student, level 2, Indian South African). Another shared, '*I'm not a fan of online learning; I prefer face-to-face interactions with lecturers*' (Male, 21 years, Level 3, Indian South African). These reflections highlight the challenges students faced in adapting to online learning platforms

**Staff challenges with the new approach**

Some students reported that lecturers struggled to adapt to online teaching methods.[25] One student noted, '*For some subjects, we couldn't have Zoom sessions because the lecturer didn't know how to use the platform*' (Female, 22 years, Level 3, Indian South African). Another added, '*Some lecturers were not as well adapted to virtual learning, making it difficult for us to get the support we needed*' (Female, 22 years, Level 4, Indian South African). These findings suggest that staff proficiency with technology directly affected the quality of the online learning experience.

**Assessment difficulties**

Students also found the transition to online assessments challenging. One student explained, '*Online quizzes made it easier to rely on study materials, and it didn't feel like I was being tested on my true potential*'(Female, 22 years, Level 3, Indian South African). Another noted, '*Online tests had time limits and didn't allow us to go back and review questions, which made it harder to perform well*' (Male, 22 years Level 4, Indian South African). These concerns suggest that online assessments may not accurately reflect students' abilities.[26]

**Way forward for teaching and learning**

Several students suggested ways for improving teaching and learning post-pandemic, including modifying teaching approaches, staff development, improving patient exposure, and improving communication.

Students were generally unprepared and ill-equipped for the move to online learning. There was general agreement that a face-to-face (contact) teaching environment provided for a richer learning experience.[27] Students also felt that their experiences of learning online were dependent on the comfort level and expertise of lecturers in delivering learning activities on an online space. Furthermore, students questioned the authenticity of online assessments as a true reflection of their learning, highlighting challenges of not being able to reflect on questions and carefully consider answers as they could in contact or paper-based assessments.

Contact training in clinical professions is essential for both skill acquisition as well as for relationship building. During COVID-19, the absence of real-world practical training presented a serious concern for health professions educators and students, [28] and also impacted on their overall levels of motivation.

## Theme IV

The final theme that was derived from data was **Student perceptions on a way forward for teaching and learning** which encompassed the sub-themes: modified teaching approach, staff development, improving student's patient exposure and lastly improving communication between staff and optometry students.

**Modified teaching approach**

Some students suggested that teaching approach should be modified to incorporate student feedback. One student stated, '*It would be nice if lecturers asked for our input on how to improve our learning experience*' (Female, 23 years, Level 3, Black South African). Others supported a blended learning approach, [29] recognising the benefits of online learning in certain contexts. One student mentioned, '*Online lectures allowed us to study at our own pace, which was helpful for some*' (Male, 22 years, Level 4, Indian South African).

**Staff development**

Students emphasised the need for staff development in using online platforms effectively.[30] One student recommended, '*Lecturers should receive training on how to use virtual platforms, so they can better support students*' (Female, 22 years, Level 3, Indian South African). This would help improve the overall quality of online teaching.

**Improving communication between staff and students**

Many students expressed the need for improved communication between staff and students, particularly in large classes. One student noted, '*Establishing a relationship with lecturers has been difficult, especially in our final year*' (Female, 22 years, Level 4, Indian South African). Improved communication could create a more supportive learning environment.[31]

**Improving patient exposure for practical skills development**

Finally, students suggested that universities should facilitate better patient exposure to enhance practical training. One student explained, '*The university should open up to the public so we can gain real-world clinical experience*' (Female, 23 years, Level 4, Black South African). Another added, '*We need access to more patients to practice our skills and improve our competency*' (Male, 24 years, Level 4, Black South African).

Students expressed a desire to be consulted regarding planned learning tasks and their perceptions or preferences in this regard. The challenge of some staff lacking familiarity of online teaching highlighted the need for staff skills development to ensure the delivery of high-quality education, regardless of the mode of delivery. Students also felt that the virtual environment negatively affected the communication with staff, hindering their ability to build meaningful relationships with their lecturers. Finally, students expressed that exposure to real patients for clinical training was non-negotiable, regardless of lockdown restrictions, as majority of their clinical competencies could only be cultivated in a hands-on, real-world environment.[32]

This research highlighted students' dissatisfaction with online assessments, particularly regarding concerns about academic dishonesty and a perceived lack of achievement. It recommends more flexible, dynamic assessment formats to support learning and reduce cheating. Optometry students also expressed frustration with poor communication and the lack of personal connection with lecturers, emphasising the need for improved strategies.

## Lessons learned

Online learning is a structured, well-planned educational model delivered through digital platforms, offering flexibility and interactive course design.[33] It allows for asynchronous or synchronous learning, with continuous student-instructor communication. In contrast, lockdown measures imposing an abrupt shift to online learning was an emergency response to the COVID-19 pandemic. This transition lacked preparation, resulting in technical difficulties, limited resources, and insufficient support, all of which negatively affected students' learning experiences. While both approaches rely on digital platforms, lockdown learning was reactive, unlike the proactive design of conventional online learning.[34]

## Study limitations

This study has several limitations that should be acknowledged. First, it involved a small, purposively selected sample of 13 participants from a single institution, which may limit the transferability of the findings to other optometry programmes or higher education contexts. Although maximum variation purposive sampling was used to enhance representativeness across different year levels, the perspectives of students who chose not to participate may differ, introducing potential response bias.

Second, focus group discussions were conducted virtually due to COVID-19 restrictions, which may have influenced the depth of interaction among participants and limited the researcher assistants' ability to observe non-verbal cues. Third, although efforts were made to ensure reflexivity and credibility through the use of an independent facilitator, co-coding, and member checking, complete elimination of researcher interpretation bias is not possible in qualitative research.

Despite these limitations, the study provides valuable insight into optometry students' experiences of learning during the COVID-19lockdown and contributes to understanding the pedagogical challenges within health professions education in resource-constrained settings.

# Conclusion

Institutional preparedness for abrupt shifts to emergency remote online learning is key to maintaining quality learning experiences in the face of pandemic-related disruptions. This equires readiness among student, staff and technical infrastructure to make the transition when necessary. Ensuring adequate patient exposure is also essential for optometry students to develop clinical competence. Finally, the recognised benefits of direct contact between teachers and students suggests that a blended teaching and learning approach may be necessary even during times of unforeseen disruptions.

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