A ray of sunshine in the COVID-19 environment, with a virtual sunburst elective

A Turner, MB ChB, MMed, FCPHM, Dip HIV Man (SA); **I (J C) Lubbe,** MSocSc, MEd, PhD; **W Ross**

School of Health Systems and Public Health, Faculty of Health Sciences, University of Pretoria, South Africa

Corresponding author: A Turner (astrid.turner@up.ac.za)

Why was the idea necessary?

Traditionally there has always been a one-month elective opportunity for third-year medical students at the Univesity of Pretoria, South Africa. In pre-pandemic years, students have used this elective to explore a future area of specialisation and/or gain practical experience at a self-selected suitable health facility or placement. The completion mark for the elective was based on the submission of a student-generated reflective report about their experience. This practice was, however, severely challenged in the prevailing COVID-19 pandemic with movement restrictions and concerns about transmission. Therefore, a decision was made and supported by the Deanery to explore the possibility of a virtual self-paced online elective for 300 medical students. Of note here is that not only were these students adjusting to lecture-led online-synchronised classes, but they also had never before been exposed to online learning in the form of massive open online courses (MOOCs) as part of their formal qualification.

What was tried?

After consultation with a few academics and an education innovation consultant, an online bouquet of free MOOCs and other sponsored courses centred on the roles of the competency framework of the Health Professions Council of South Africa (HPCSA) was proposed.[1] The roles of 'Leader and Manager', 'Health Advocate' and 'Professional' were identified as ones that had not been traditionally focused on in the medical curriculum. These roles would be the focus of this elective. It was envisaged that students would engage in self-directed learning and emerge with knowledge and competencies in familiar and new topics that may spark the concept of lifelong learning in this cohort of students.

The virtual elective consisted of **one** compulsory course related to leadership and management, **two** courses related to any of the identified roles, any **two** medical or non-medical courses of the student's choice from the LinkedIn Learning platform and, finally, the assessment. Courses were selected from reputable online global health sites, as well as a private higher educational institution – the Foundation for Professional Development – that allowed students to access their sponsored courses for a limited period. The university also granted students access to the licenced LinkedIn Learning package that was subscribed to for staff members. Weekly reports were provided at the online School of Medicine meeting.

Communication was key during this endeavour and explicit instructions were placed on the learning management system (LMS) of the institution. Frequent announcements were sent, and the class representative was utilised as a go-between for two-way communication, distributing information and reporting on challenges experienced by the students. A designated technical person from the one MOOC service provider as well as an administrative staff member were available to assist with log-in and other technical issues.. A description of the available courses and instructions on how to access them was provided on the LMS. The content of courses ranged from digital and financial literacy to gender-based violence and COVID-19 management. Apart from the courses on LinkedIn Learning that could be a few minutes in duration, most of the other courses would take from two to 25 hours to complete, with certificates being issued on completion.

For reporting and assessment purposes, a Excel (Microsoft Corp., USA) template was created for the students, who downloaded their own personal copy of the interactive template. The template consisted of a sunburst graphic that, when populated with details of the courses completed, would update in real time and provide a colourful illustration of the HPCSA roles and competencies that students addressed in the elective, as well as alluding to gaps that they would need to strengthen in the remaining years of their medical studies. A second tab required them to complete a three-column KLA-sheet for each of the courses, briefly describing 'I **knew** this already', 'This was new to me – I **learnt** something useful from the course', and finally 'This was useful – this is how I am going to **apply** it to my life/medical journey'. This reflection would contribute to the metacognition of students.

To pass the elective and in accordance with the institution's record-keeping policy, students had to upload a zip folder of the certificates of completion that they obtained for the chosen courses and the Excel sheet.

Incorporating some gamification, prizes consisting of vouchers from an online medical shop, as well as virtual or face-to-face opportunities with medical doctors fulfilling the roles of a leader and manager, health advocate and professional, were awarded to randomly selected students (lucky draw).

For quality improvement purposes, the Medical Education Office traditionally co-ordinates the end of module feedback. Owing to the nature of this elective, questions about the attainment of competencies, course selection and the likelihood of a virtual elective for future student cohorts were added.

The lessons learnt

The disruptive and frustrating impact of the COVID-19 environment on the students was underestimated and although support and referrals were offered when it was brought to the co-ordinator's attention, the available resources of the institution should have been highlighted and reinforced throughout the elective. In addition, the inequities of data, connectivity and digital fluency also came to the fore.

In lieu of supporting the students, submission deadlines were extended and assessment approaches and techniques were adapted to accommodate differences and address challenges. However, what became evident was that online resources that allow students to become more digitally literate, as well as opportunities to raise other issues (such as data shortages), must be created well in advance of such an endeavour. Not only do students need to be made aware of the avenues available to raise concerns, but they may also need further communication on responsible data usage.

For future electives that may incorporate online courses as a component, dedicated administrative support and technical resources, as well as possible collaborative relationships with service providers are vital.

What will we keep in our practice?

The access of undergraduate students to the LinkedIn Learning platform was piloted in this elective. As a pilot, students would have access until March 2021. The continued use of the platform, with the possibilities of directing students to specific topic pathways and being able to have data analytics about their course completion and other topic selections, for example, is attractive and worth exploring further.

Secondly, the sunburst Excel template – if adapted and used systematically each year – could be the mechanism for all health sciences students to reflect on while also graphically see their progress in the HPCSA roles and associated competencies that they are expected to attain upon graduation.

Based on personal communication to the co-ordinator and class representative, the undergraduate students thoroughly enjoyed the elective and there is a definite educational, personal and professional benefit to include an online component in future electives, not only to underscore the importance of these often neglected HPCSA roles, but also to ensure well-rounded qualified health professionals.

Based on a study that will evaluate the data obtained from the elective, the collaborative practices that were formed may be revisited to use in the continuing teaching experience of students.

What will we not do?

After thoughtful personal reflection, sound boarding with peers and analysing the students' reflective reports, we have come to the following conclusion: change is inevitable and sometimes we need a pandemic to force us to innovate, adapt and improve. Therefore, we have committed to the following:

- We will never revert to the pre-pandemic elective for students where they were not guided regarding choice or held accountable for those choices and their own learning. The COVID-19 environment presented us with a long-overdue opportunity to assess and revamp the elective and its intended outcomes.
- Although it was done for the safety of students, we will not, when it is possible, go back to a purely virtual elective. As students thrive in a best-of-both environment (and thus a hybrid approach to teaching, learning and assessment), the elective should make provision for that. Students will benefit from a more hybrid approach addressing both the need for authentic clinical exposure during the elective, as well as acquiring the transferable, but often neglected, HPCSA affective roles and competencies.

- We will not limit the use of the interactive sunburst to only this module. The 'virtual sunburst elective worksheet' is a constructive tool that could be used in future electives to ensure that students – and educators – in our institution keep track of their academic growth through the years, as well as a tool to indicate where more attention is necessary. This will become a 'living' tool to display their growth and development.
- Finally, we will not be complacent but continuously seek more innovative ways to improve the curriculum towards one that is person-centred and values-based.

Evidence of innovation

1. Health Professions Council of South Africa. Core competencies for undergraduate students in clinical associate, dentistry and medical teaching and learning programmes in South Africa. HPCSA; 2014. https://chs.ukzn.ac.za/Libraries/News_Events/MDB_Core_Competencies_-_ENGLISH_-_FINAL_2014.pdf (accessed 24 February 2021).