

Minecraft Education in the Wits undergraduate Pharmacy programme

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South Africa declared a national state of disaster in mid-March 2020 due to the coronavirus pandemic, resulting in a 21-day lockdown. To reduce disruption and ensure continuity of the academic year, the University of the Witwatersrand (Wits) took decisive action to migrate all teaching onto the online platform. The Department of Pharmacy at Wits embraced this challenge with a myriad of online methodologies to ensure students were engaged to complete their curriculum without compromising quality. The traditional didactic method of lecturing was smoothly transitioned into online learning with the use of multiple available tools such as gaming, webinars, and podcasts.

To mitigate the risks of student exposure to the coronavirus, the traditional mock inspection assignment provided in first-year Pharmacy Practice was incorporated into a virtual space using The Pharmacy Minecraft: Education Edition tool. The traditional mock inspection mimicked the questionnaire used by appointed SAPC inspectors to assess the competency of community pharmacies as per the good pharmacy practice (GPP) requirements.¹ Upon the completion of the mock inspection of a community pharmacy, the first year students' ability to identify GPP non-compliance is assessed. Minecraft is a multilayer sandbox game used to simulate a real-world workplace environment making this the ideal game to promote student logic and application of theory.^{2,3} Pharmacy Minecraft: Education Edition, therefore, allowed for the development of a virtual community pharmacy premises, and the assignment structured to allow students to inspect a virtual pharmacy by playing the Minecraft game.

A detailed document, designed by the course lecturer, was provided to the game designer, and the pharmacy in Minecraft Education Edition was created according to the guidelines provided (Figure 1). The virtual pharmacy was not designed as a perfect pharmacy premises that aligned with all the applicable regulations. Lecturers embedded intended flaws within the virtual pharmacy environment. The assessment was geared to determine whether students identified GPP non-compliance and reported as such. This format provided lecturers with an indication of the student's understanding of the GPP regulations. During the gaming activity, students were able to walk around the pharmacy premises and interact with the virtual pharmacy staff members. Through both the interaction with staff and by walking about and observing the pharmacy premises, all the information required to



Figure 1

complete the mock inspection was conveyed to the students. The mock inspection allowed students to engage with pertinent GPP regulatory aspects of the pharmacy premises.

This Minecraft experience allowed students to interact with a virtual pharmacy to augment the theoretical teaching with practical exposure. South Africa has a large proportion of its citizens living below the upper-bound poverty line. Student diversities are noted in higher education with regards to e-learning, such as a lack of access to online gaming and devices. Despite this, the majority of students found Minecraft to be enjoyable and considered it as a future educational tool. To continue this method of teaching, Minecraft training will become mandatory.

The limitation to this teaching method was the lack of personal interaction between the students and the pharmacy through a site visit. In the first year, many students have not had prior exposure to the pharmacy workplace and vocalised their disappointment in not being able to implement this in the year 2020. In addition, lack of access to computing devices, technology and connectivity to access the Minecraft system was a limitation for implementation. Based on student outcomes, this novel approach to virtual site visits will continue with the inclusion of reduced hours allocated to on-site visits.

References

1. Van de Vaart FJ. Good pharmacy practice. *Pharmaceutisch Weekblad*. 1996;131(42):1206. https://doi.org/10.5005/jpp/books/12322_12.
1. Ellison TL. Minecraft, teachers, parents, and learning: What they need to know and understand. c2016. Available from: <https://files.eric.ed.gov/fulltext/EJ1123979.pdf>.
2. Riordan BC, Scarf D. Crafting minds and communities with Minecraft. *F1000Research*. 2016;5:2339. <https://doi.org/10.12688/f1000research.9625.1>.