

TEACHING MEDICAL RADIATION PHYSICS DURING THE COVID-19 PANDEMIC

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INTRODUCTION

Nations of the world faced unbearable challenges due to COVID-19 pandemic from March 2020 to the second half of 2021. Besides health and the economy, education was severely affected. Due to complete lockdown, millions of students had to stay home. The teaching and learning methods had to be altered rapidly to support student learning. This presentation describes the changes made and teaching strategies developed in the medical radiation physics courses in an Australian university.

CHANGES MADE

Prior to the COVID-19 pandemic, undergraduate medical radiation physics courses at the RMIT University were delivered via face-to-face lectures, tutorials, lectorials and laboratory practical. From March 2020, due to complete lockdown in Victoria, all these academic learning activities were shifted to online delivery mode. Lectures are pre-recorded and posted on *Canvas* learning management system (LMS). Tutorials and lectorials were delivered online live via webinar tool – Collaborate Ultra built into Canvas LMS. Remote lab learning processes were developed. Pre-recorded lab demonstration videos were uploaded for x-ray labs and sets of data were supplied. Students analysed the data and submitted full lab reports online. For digital image processing labs, remote access to the lab computers was established and students completed their labs remotely. The assessment items were given more flexibility. Final written exams were replaced by alternative assessment assignments, take-home examinations, and oral assessment. Online quizzes and short answer questions tests were kept open for a longer period of time to give more flexibility to students learning.

EFFECTS DUE TO CHANGES

Most of the students completed their academic program on time. Direct interactions with students were limited. Online presence in scheduled live lectorials and tutorials declined gradually throughout the semester.

MEASURING THE IMPACT

The impacts of these changes on the learning process have been investigated and compared with the pre-pandemic outcomes. Student-results of 2020 courses are compared with the same courses delivered in 2019. The overall satisfaction index (OSI) from course experience survey (CES) results are also compared.

RESULTS

The overall course results of students' academic performance in Medical Radiation Physics 1 (MRP1) and Medical Radiation Physics 2 (MRP2) in 2020 were similar to 2019. For MRP1, pass rate was 96.1% in 2019 and 96.6% in 2020. For MRP2, pass rate was 95.6% in 2019, but 98% in 2020. Although pass-rate slightly increased in the changed mode, the overall satisfaction indices (OSI) was significantly lower in 2020 compared to 2019. For MRP1, OSI was 93.6% in 2019, went down to 81.3% in 2020. Similarly, for MRP2, OSI went to 80% in 2020, from 91.3% in 2019.

FURTHER READING

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