UTILISING TECHNOLOGIES FOR POST-COVID MULTIMODAL COURSE ENGAGEMENT: AN INITIAL STUDY

Michael J. Gladys[a], Lachlan Rogers[a], Galiya Sharafutdinova[a], Nicholas Barnham[a], Patrick Nichols[a], Paul McDonald[a], Paul C. Dastoor[a]

Presenting Author: Michael J. Gladys (Michael.gladys@newcastle.edu.au)
[a]University of Newcastle, Callaghan NSW 2308 Australia

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In 2020, new undergraduate courses were developed, each with three 4-week modules. In particular, Modern Physics II was developed for a combined roster consisting of both Newcastle and James Cook University students and comprising Special Relativity, Nuclear and Particle Physics modules. To enable maximum engagement, a flipped classroom regime with no lecture notes, blended and remote laboratories and the inclusion of the SLACK project management hub was employed.

Students were tasked with creating their own digital lecture notes from online videos resulting in 100% active engagement with the lecture content. All lecturettes contained embedded questions and a comparison of lightboard and PowerPoint was conducted. Weekly, online tutorial workshops using Zoom culminated with over 85% attendance rate consistently throughout the course. A weekly blackboard quiz was performed at a random time during these workshops and based on the embedded lecturette questions.

New innovative STEM laboratory workshops were constructed in a variety of active engagement, from purely online worksheets, blended and remote experiments which were developed to work seamlessly under the changing COVID-19 restrictions. Students were exposed to planning, management and python control coding under the visage of “embracing technology and best practice to deliver the greatest possible student experience”.

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