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Online classes and the effects on conceptual understanding

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The Force Concept Inventory (FCI) can be used as an assessment tool to measure the gains in a cohort of students. In this study it was given to first year mechanics students pre- and post-mechanics lectures, for students at the University of Johannesburg. From these results we examine of the change from traditional classes to online classes, as imposed by the COVID-19 lockdown. Overall gains and student perspectives indicate no appreciable difference of gain, when bench-marked against previous studies using this assessment tool. When compared with 2019 grades, the 2020 semester grades do not appear to be greatly affected. Furthermore, initial statistical analyses also indicate a gender difference in mean gains in favour of females at the 95% significance level. A survey given to students also appeared to indicate that most students were aware of their conceptual performance in physics, and the main constraint to their studies was due to difficulties associated with being online. As such, the change in pedagogy and the stresses of lockdown were found to not be suggestive of a depreciation of FCI gains and grades.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

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