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# STUDENT ENGAGEMENT IN FIRST YEAR CHEMISTRY – ONLINE VS FACE TO FACE

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Rapid campus closure and an unexpected transition to an online offering of a large first year chemistry unit provided an opportunity to explore the level of student engagement and factors associated with success in this online transition. In this presentation, we compare the standard, face-to-face offering in 2019 to the online offering in 2020 by examining the completion of weekly assessment tasks and the uptake of a variety of learning activities. All measures of engagement have been correlated to the students' final scores in the unit.

We found that students were able to quickly adapt to using the technology including accessing live streamed or recorded lectures, joining online tutorials and discussion forum use. Participation in in-class polling was unchanged, and was associated with the same increase in final score. The only learning activity with a significant change was tutorials; face-to-face tutorial attendance gained students 2.7 marks out of 100 in their final score per tutorial, whereas online tutorial attendance only gained 1.8 marks per tutorial.

The decrease in completion of the weekly low stakes assessment tasks over the semester was unchanged, but overall quiz scores were slightly higher. Completion of online practical activities was the same in both years. Scores for a video recorded practical activity with drop-in consultation were 0.9/10 lower compared to the identical activity and worksheet conducted face to face.

Our data show that some aspects of learning can be moved online seamlessly, but face-to-face practical sessions and tutorials have a greater impact on student success than online versions.

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