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Reflecting on Course Design during the Covid Pandemic from

a UK-centric Perspective

Pre-pandemic, the educational design for a 50-student final-year project course and a large fist-year programming course (200 students) was completed. The aim of the project course was for students to interact with one another in person, fostering communication and exchange of ideas/ feedback through group discussions. This was based on the flipped classroom concept [1] as well as peer teaching [2,3] and active learning. Thus, providing them with initial material but then supporting self and peer learning. The goal for the course was to change passive students observed after the earlier years to an active learner role. As a second component, an industry-oriented approach towards running sessions, SCRUM [4] was employed. Following SCRUM and being able to communicate efficiently was seen as important by the students and local companies. The larger course was designed using traditional lectures that mix live coding and knowledge parts, as well as weekly programming exercises that are auto-graded to give control over their individual learning, providing fast automatic feedback cycles.

Observing the pre-COVID sessions, the project course showed medium success. Students formed homogenous groups not engaging with others. A proportion of students struggled with stress and anxiety, thus, presenting and discussing were difficult for them. Mitigation through discussion etiquette showed no initial success and the room layout(front-facing seats) had a negative impact on discussions as well. Once switched into online-mode¹, the issues with the room's layout vanished; students who felt uncomfortable speaking started to engage more using the discussion etiquette and when specifically scheduled in for a slot to present.

For the large online course, sessions could be followed easier by students and the material could be revisited more due to the recordings which helped students with special needs. However, live session attendance dropped dramatically and a large proportion of students disengaged due to stress and issues with personal time management. The exercises did work well but for the larger coursework, more rapport and well-spaced fixed deadlines would have been needed to provide a more stable experience. Generally, neurodiverse and special needs students seem to benefit from the changes introduced during COVID but stress and frustration increased for students who were not engaged or not used to self-directed learning.

¹ Given the emergency situation and the requirement from the University, teaching activities were required to transition within 2 weeks in 2020 to be entirely online.

References

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