

Life Science mini projects: Taking the lab outside the laboratory

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Summary

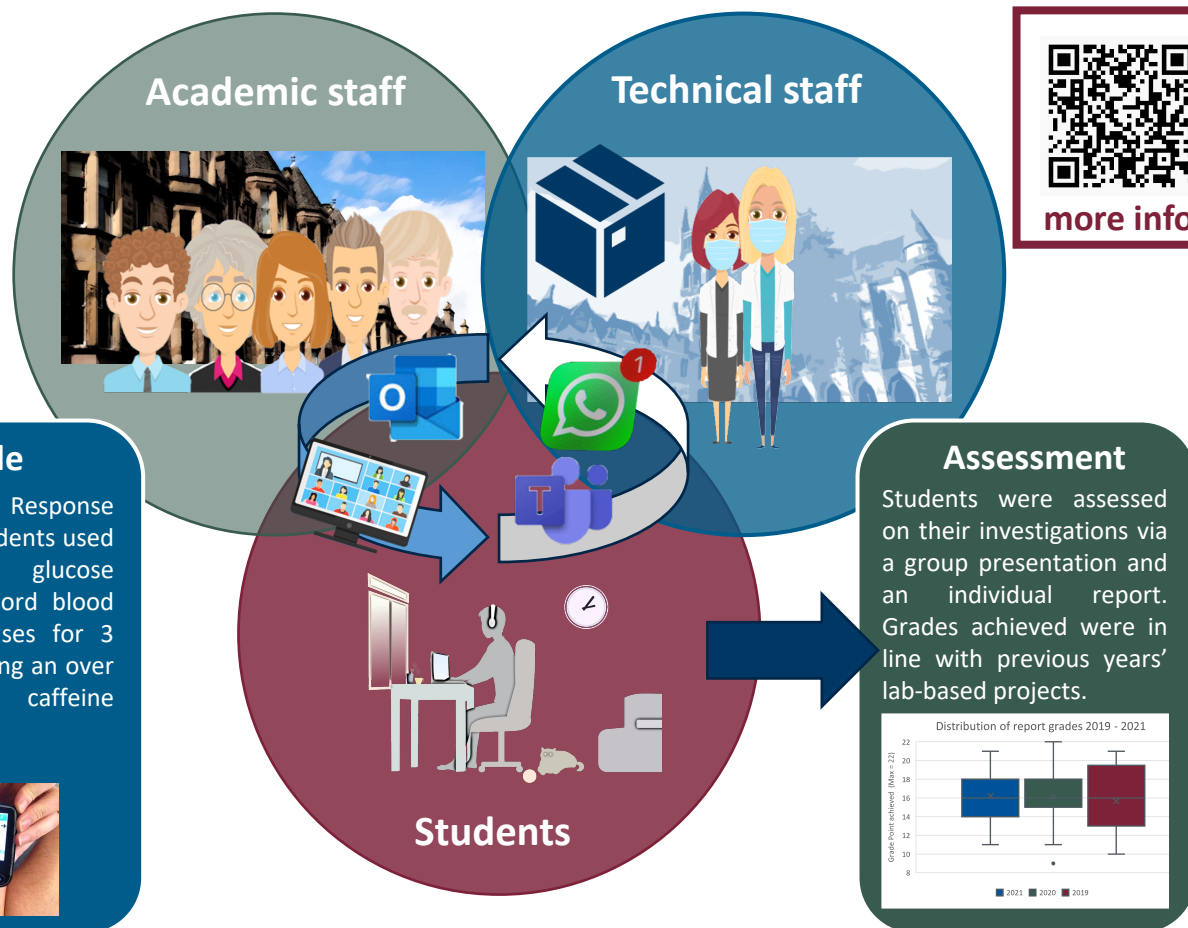
Investigative and practical skills are core competencies in Life Sciences. For the academic year 2019/20, due to COVID-19 restrictions, laboratory classes were replaced with online versions for Physiology and Human Biology students in their penultimate year of study.

To deliver learning outcomes difficult to achieve from e-learning, the process of scientific investigation was transferred to a "real-world" environment.

Supported by academic and technical staff, groups of 5-6 students collaborated remotely during the semester to design investigations. Subsequently they collected data from home-based projects, over a dedicated experimental week.

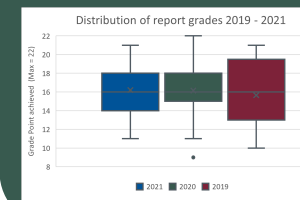
Example

Blood Glucose Response to Caffeine: students used a continuous glucose monitor to record blood glucose responses for 3 hours after taking an over the counter caffeine tablet.



Assessment

Students were assessed on their investigations via a group presentation and an individual report. Grades achieved were in line with previous years' lab-based projects.



Student Feedback

"Overall I think the mini-projects went well... it reminded me of what would be involved in an honours project..."



"...you can obviously **share stuff online** and ideas and stuff quite quickly."

"Ordering the equipment...**was quite stressful** as it only just arrived in time for our planned data collection start-date."



Take-home messages

- 1 Remotely implemented investigative projects are possible with appropriate planning and safety considerations.
- 2 Remote delivery presented opportunity for creation of experiments with real-world application.
- 3 Technical staff are key members of the teaching team and have valuable expertise to facilitate the learning experience.