

LEARNING GAINS OF STUDENTS IN DIFFERING DELIVERY MODES OF PHYSIOLOGY LABORATORY CLASSES

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ABSTRACT

Inquiry-based laboratory classes provide opportunities for students to reinforce knowledge and develop skills in scientific methodologies (Colthorpe et al., 2017). However, with many courses now delivered in dual modes, it is unclear whether gains are equivalent when classes are delivered face-to-face or online. This study evaluated students' perceptions of gains from inquiry-based laboratory classes in alternate delivery modes.

Biomedical science students undertaking 'Systems Physiology' enrolled in internal ($n=341$) or external ($n=117$) modes. The course has a blended design, incorporating inquiry-based laboratory classes delivered either face-to-face or via *Zoom*. Students worked in groups to design and present an experiment proposal. Internal students undertook their experiment and analysed the data, whereas external students analysed data generated by prior students. All students completed an individual laboratory report. Through open-ended questions, students identified learning gains they achieved. Responses were thematically analysed against an existing framework (Brinson, 2015).

Internal students reported gaining skills in data acquisition and presentations more than external students. Whereas, external students more frequently reported gaining skills in formulating aims and hypotheses. Students' grades were identical in each mode.

Although students appear to cope well with differing delivery modes, external students may need targeted support to assist development of specific skills.

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