

# BUILDING A LABORATORY SKILLS VIDEO REPOSITORY FOR MOLECULAR BIOSCIENCES

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## BACKGROUND

Laboratory skills are essential in the biological sciences workforce (Smith, Grando, & Fotinatos, 2016), and virtual laboratories have become increasingly prevalent. Instructors need support in their transition to online delivery (Rasheed, Kamsin, & Abudllah., 2020), and there is a paucity of standardised guidelines for developing laboratory training videos.

## AIMS

This project aims to address how students engage with online laboratory training and inform the future production of laboratory videos.

## DESIGN AND METHODS

Laboratory videos were produced for a blended microbiology course in 2019 (390 students). Video analytics were collected from July-November 2019, student performance was assessed through laboratory examinations (Wang, Huston, Johanesen, Lloyd, & Waller, 2018), and student perceptions monitored through course surveys (26% response rate).

## RESULTS

Six 5-minute videos had 2500 views, with >160 hours of total watch time. Average video viewing duration was >70% and 25% of viewers used English subtitles. Audience retention for technique demonstration scenes was significantly higher than other scenes in each video ( $p < 0.0001$ ). Students performed well in laboratory examinations (91.86 +/- 0.5% across all six skills), and 34% of student respondents cited "laboratory resources" as the best part of the course.

## CONCLUSIONS

We observed active viewing engagement, strong assessment performance, and positive student perceptions of lab demonstration videos. This highlights the value and utility of laboratory videos in blended and online learning environments.

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