

Challenges and Lessons Learned Implementing Online Labs During the Transition from Traditional to Online Delivery of a Large-Enrollment Introductory Biology Lab Course

Monica Torres

Rutgers University, Biological Sciences Department, Nelson Biological Laboratories,
604 Allison Rd, Piscataway, NJ 08854
(torres@dls.rutgers.edu)

Challenges and lessons learned during the transition from traditional to online delivery of a large-enrollment, introductory biology lab course will be summarized. A combination of videos, interactive simulations and demonstrations were used for students to engage in activities as researchers working in a lab setting. Students prepare a capstone project, they formulate a testable question, select variables needed to test their question, collect and analyze their own data using open access databases and communicate their findings. The capstone project offers the opportunity to build data manipulation skills, quantitative reasoning skills, graphing and visualizing results to foster conceptual understanding of freshwater ecosystems and to develop analytical and problem solving skills needed for scientific research, upper courses and career preparation. Furthermore, the session summarize the student's perception when comparing the online offering with traditional laboratory sessions. Synchronous videoconferencing of all class meetings was well received as well as virtual simulations with immediate feedback and research skills gained with capstone project.

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