

# Online Collaboration Tools as a Method to Increase Data Flexibility, Sample Size, and Quality for Field-based Guided Inquiry Labs

Saewon Koh

University of Alberta, Department of Biological Sciences, CW312E, Biological Sciences Building,  
11455 Saskatchewan Dr, Edmonton AB T6G 2E9 CAN

([s.koh@ualberta.ca](mailto:s.koh@ualberta.ca))

Several major challenges can constrain the operation of a field based ecology lab. Travel time from campus to the field site limits the number of hours each lab section can realistically spend gathering data. Trade-offs are often made between sample size and the number of variables collected. Reductions in either can reduce the quality of the experience for the student. A lower sample size means data cannot undergo formal statistical analyses while reducing the number of variables collected can reduce the variety or the scope of hypotheses that students are able to form within the context of a guided inquiry lab. We used Google Docs and Google Maps to support a Terrestrial Ecology Lab in a forested river valley. Nineteen lab sections each comprised of 20 students who collected 15 abiotic variables and 15 biotic measurements in two plots. Data from each of the lab sections were entered into a shared database. Sharing data meant that each lab section could spend time to properly sample fewer plots but still pursue interesting ecological questions using the overall database. The redundancy built into the shared data meant that the loss of data from several lab sections rained or snowed out, or those that incorrectly sampled, did not affect the overall quality of the shared database. During this workshop participants will set up a shared document, enter data, and learn how to control access to the document. We will also discuss the strengths and weaknesses of using shared data within the context of an inquiry based lab.

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