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Interactive Mathematica-based biodiversity exercise enhances student understanding.

We created interactive exercises that students can use to explore biological concepts. These active learning experiences allow students to enter data and modify parameters without knowing how to use *Mathematica*. Using these exercises enhances student understanding by allowing them to focus on the biological concepts and visualize the data and calculations without the tedium of hand computation.

This presentation will highlight an interactive version of a biodiversity lab that explores Simpson's Diversity Index. Students are walked through the calculations with a small data set and are then asked to analyze a larger data set. This larger data set is presented as a set of interactive graphs so that they can explore and manipulate the data in order to answer questions. It also allows students to visually experience the concepts without having to complete all the calculations themselves. For our non-major audience, this means that we can have a more sophisticated discussion without getting stuck on the calculations. We will present the exercises as well as the assessment results and our future directions. (Received September 12, 2014)