Creating a Teaching and Learning Infrastructure for Introductory Statistics Redesign

ABSTRACT

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The Introductory Statistics Redesign Infrastructure (ISRI) project is constructing a model for effectively integrating the American Statistical Association supported best teaching practices into large, previously lecture-based introductory statistics courses. The project team is developing materials to assist instructors with incorporating active learning...
techniques in their classes and is developing teaching assistant materials to improve small-group instruction. Together these teaching supplements provide a model for teaching an activities-based, learner-centric introductory statistics course. The team is also producing unique data-analysis laboratory activities that introduce statistics as a science of data (not as a series of calculations) and guide students in analyzing real data and developing conceptual understanding. Additionally, this project is developing, testing, and implementing a computerized method to rapidly grade short open-ended writing questions in introductory statistics which will help instructors quickly identify learning misconceptions and provide students with timely feedback. All of the components of this course redesign work together to encourage students to perform high-level thinking in introductory statistics.

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