

An Open-Access, Active-Learning, Online Undergraduate Research Methods Course Morton Ann Gernsbacher

Research Methods is a four-credit, required course for Psychology majors at the University of Wisconsin-Madison. It's considered a foundational course. However, the majority of our Psychology majors put off taking the course until their junior or even senior year. They fail to see the relevance of the course to their study of psychology or their lives. Enrollment in Research Methods during previous summers also illustrates students' declining desire to take in-person courses during summer session.

Two years ago, I set as my goal creating an engaging, online version of Research Methods. I designed the course based on the same pedagogical principles that have guided my other online courses, including

- distributed (rather than massed) practice (14 course units that comprise six assignments);
- active (rather than passive) learning (84 assignments that require producing a product);
- collaborative (rather than competitive) peer-engagement (teams of 9 and 3 students that interact daily);
- daily interaction between each student and the instructor or a TA;
- universal design (for all learners, including students with disabilities, student athletes, students with parenting and outside work responsibilities); and
- open-access materials (the entire course is available at <https://online225.psych.wisc.edu>).

I designed the course also knowing that fewer than five percent of our majors complete a senior thesis; even fewer go on to a PhD program. Therefore, it seemed less important for students to learn how to design a counterbalanced two-by-three factorial experiment; compute the correct degrees of freedom for a matched-pairs t-test; or memorize whether both the volume and issue number are required in APA-style citations than for students to learn how to

- find and read psychological science (in both the scholarly literature and popular press);
- understand and critically evaluate psychological science (including new perspectives on reproducibility and transparency);
- communicate psychological science (through description, analysis, and persuasion) to general audiences, as well as psychological scientists;
- construct, administer, and analyze data from informative, short online surveys;
- interpret and design informative tables, figures, and charts; and
- create and produce engaging narrated video presentations about psychological science.

From all available metrics, the course has been highly successful. It enrolled over 90 students (in summer 2017) and 130 students (in summer 2018). Student evaluations of the course have been exceedingly positive, as have evaluations from instructors around the world, who, because the course is open-access, have been able to review and use the materials in their own courses.