

BEST PRACTICES CASE 3



PSYCHOLOGY UG STUDENTS PARTICIPATED IN TESTING THEORY IN COURSE-BASED RESEARCH PROJECTS

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The faculty at teaching intensive schools may not be able to accommodate undergraduate research experiences, but they can still make their courses more research-oriented for their students.

In order that students have a solid foundation for undergraduate research practices, this paper focuses on testing theory, implementing open-science practices, and presenting research in a professional setting. In particular, it focuses on group research because it involves more collaboration, inclusivity, leadership, and management. Group projects are also more easily implemented in courses that have 15 to 40 students.

It is understood that sometimes, the idea of research induces anxiety among students. This can be alleviated if research projects are being incorporated in content courses of the undergraduate curriculum.

Good student research is driven by hypotheses that are theory-driven. Instructors can get involved in the early stages of the project to ensure that this is the case. Because students often struggle in this area, instructors need to be patient to help students as they build up these critical thinking skills.

Students often experience a lack of knowledge regarding the sub-discipline when deliberating with a research idea. This usually leads to an underdeveloped hypotheses. As a result, the instructor can assign a few familiar papers at the beginning of the semester. Integrating theory and methods in the lectures about these papers is an option. Some groups may create a testable hypothesis quickly, while others may need more direction and help to shape the research question. If there are some groups struggling with this, prepare some ideas in advance for them to think about. Providing students with the instructor's own research ideas can be another option. If the student project informs the instructor's research, then students can be scouted for future independent study in later semesters.

It is important to keep course-based research simple. Many correlational studies is sufficient to test theories. For example, in a personality course, one project tested if conscientiousness would predict a higher GPA. This project turned into an honor's thesis and internally funded a project for another student.

Instructors can integrate open-science practices into course-based group projects. Doing this will help students more easily navigate their research in graduate school and become better scientists in general. Students should complete a project summary for course-based research. The summaries can include the theoretical basis for the project, their hypotheses, variables, and how they will collect data. Instructors should give feedback at this point to clear up any confusion about hypotheses and variables. They should also consider using the Open Science Framework (OSF; <https://osf.io>) for students to upload their finalized summaries, survey materials, and data. OSF allows anyone to easily create projects, upload materials, add collaborators, and register projects.

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Most students can use their social media for data collection. They should be able to collect 100 responses per group in a few weeks – an average of 20 to 25 responses collected per group member. Ideally, the respondents should complete the survey questionnaire in less than 20 minutes. If there is funding available, instructors may also crowdsource their data collection through sites like M-Turk. If M-Turk is used, the instructor may use CloudResearch to ensure pre-screened participants who have a history of providing high quality data.

Federal guidelines state that work that does not result in dissemination or generalized knowledge is not considered research. Thus, if students are only completing research to learn skills in a course, you may not need to go through the Institutional Review Board (IRB) process. If they plan to present their research in a professional venue, they will need IRB approval. Ensuring that students are not doing work on sensitive topics or involving minors can quicken the IRB approval process. You should consult your university's IRB representative early on.

Most universities have a research symposium at the end of a semester to highlight some of the research being conducted. Introducing minimal incentives like extra credit of five percent on the final exam can encourage students to present their research findings. Virtual conferences or conferences hosted at neighboring institutions can be presentation outlets.

Overall, using course-based research can increase participation and inclusivity in research. Furthermore, theoretically rigorous research can help students in graduate applications or as they enter the competitive workforce.

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Source of image on page 1: <https://miuc.org/why-we-love-social-psychology/>

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