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UNDERGRADUATE RESEARCH IN THE TWENTY-FIRST CENTURY

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COUNCIL ON UNDERGRADUATE RESEARCH

Student research clubs provide a forum to help students not only be successful researchers but successful graduates as well. This model provides leadership experience, student institutional involvement, social enrichment, collaboration, and peer accountability in addition to research training. Benefits of a discipline-specific research club include training tailored to the particular field (for example, ethical animal use for those disciplines that have research involving animals), increased collective interest in peer projects, exposure to content in the field, and a manageable membership size that fosters a strong sense of community.

Addressing Twenty-First-Century Problems by Engaging Undergraduates in Use-Inspired Basic Research

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Editor's Note: This vignette discusses issues pertaining to sexual assault that may be distressing for some readers.

In 2018, sexual assault allegations against then-U.S. Supreme Court nominee Brett Kavanaugh saturated the media, provoking deeply polarized reactions among the general public. Although Kavanaugh was the alleged perpetrator of assault, some media outlets cast him as the “real” victim (i.e., of false allegations)—a type of framing that might shift public support away from the accuser. Whether such victim framing is effective is a *use-inspired basic research* question—a fundamental scientific question that “lies at the heart of a social problem” (Stokes 1997). Such questions can be effective hooks for engaging undergraduates in research, particularly those uninspired by the esoteric questions that guide many faculty research agendas.

Since the Kavanaugh allegations surfaced, I have involved several undergraduates in use-inspired basic research projects investigating the psychological consequences of victim framing. After gauging students’ comfort level with this sensitive topic, I tailor a project to their own experience and interests. For first-year students, I provided an accessible first research project: searching television news transcripts that covered the allegations and coding the nontrivial frequency with which the word *victim* was used to describe Kavanaugh, compared to his accusers. For a student in my research design course who expressed interest in media portrayals of sexual assault, I suggested a small-scale framing study as a class project. Participants read a news report about an alleged sexual assault in which the male (alleged perpetrator) or female protagonist

was framed as the “real” victim and then expressed their level of support for each character. For three advanced students, I provided opportunities to design and conduct a full-scale version, as well as several follow-up studies, in my lab. Across the various iterations, the results showed clear framing effects: the character described as the victim received greater support relative to baseline levels, demonstrating the persuasive power of such framing. This work has generated two conference presentations and a journal manuscript in preparation, all with undergraduate coauthors.

Besides advancing scientific knowledge linked to real-world problems, use-inspired basic research experiences of this sort may be especially effective for scaffolding students’ development as scientists. Such experiences leverage students’ intrinsic interest in hot-button sociopolitical issues, transforming their nascent intuitions into testable hypotheses and building their self-efficacy to do real science. Students gain research skills that prepare them not only for graduate study but also for public policy work and other non-academic careers for which scientific fluency is increasingly valuable. By tackling twenty-first-century problems, use-inspired basic research by undergraduates can bolster connections between academia and the world beyond.

Reference

Stokes, Donald E. 1997. *Pasteur's Quadrant: Basic Science and Technological Innovation*. Washington, DC: Brookings Institution Press.

Scenario Planning as an Undergraduate Research Experience

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One form of research preparing undergraduates for the twenty-first-century workplace is scenario planning. The authors argue students gain “futures literacy”—the “capacity to explore the potential of the present to give rise to the future” (Miller 2007, 347)—by learning to create scenarios that help organizations plan for the future. The method disciplines student imagination to explore and plan for multiple future scenarios.

During planning, “scenarists” facilitate dialogue between members of an organization to identify drivers of change toward a specified time-horizon (e.g., 2030). Scenarists identify “end states” of two driving forces and cross them creating a 2x2 matrix of quadrants. Figure 1 shows the outcome of student-scenarists working with a fraternity at