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## **Tackling Undergraduate Research Mentoring**

**by Kristi Lewis**

Undergraduate research is one of the 11 [“high-impact educational practices”](#) identified by George Kuh (2008). According to the Council for Undergraduate Research (CUR) and the National Conferences on Undergraduate Research (NCUR), undergraduate research is defined as the “formation of a collaborative enterprise between student and faculty member that triggers a four-step learning process ([Student Education Resource Center 2011](#)).” The four-step process involves: 1) identifying a research question, 2) selecting a methodology that will allow the research question to be answered, 3) engaging in and completing the project, and 4) disseminating the findings from the scholarly activity ([Galbraith 2012](#)).

Studies show that, of the 11 high impact practices, undergraduate research leads to the most student engagement and retention ([Kuh 2008](#); [Kuh 2018](#); [Upcraft et al. 2005](#); [Tinto 2012](#); [Pascarella et al. 2008](#)). Additional benefits to students who engage in undergraduate research include: 1) enhanced learning that leads to gain in knowledge, 2) increased problem solving and critical thinking skills, 3) strengthened ability to accept ambiguity, 4) expanded opportunities to observe various career paths, 5) heightened awareness of ethical practices in research, and 6) improved verbal and written communication skills ([Kuh 2008](#); [Laursen et al. 2010](#); [McGrath et al. 2015](#); [Lopatto 2004, 2007, 2010](#); [Hunter et al. 2004](#); [Hunter et al. 2007](#)).

Instructors are definitely an important factor in the success of an undergraduate research experience. Students’ satisfaction with the undergraduate research experience seems to be associated with their mentor. Qualities that students felt were beneficial in an undergraduate research mentor included: 1) knowledgeable on the topic, 2) approachable, 3) available, 4) inspiring, and 5) helpful ([Van Vliet et al. 2013](#)).

The benefits of undergraduate research are not exclusive to students, but also extend to instructors who serve as undergraduate research mentors. In a study by McKinsey (2016), undergraduate research mentors stated that they learned from the process. Also, they felt that serving as a mentor helped to improve their own teaching. Others stated that the opportunity to work one-on-one with a student and pass along a passion for their discipline was rewarding to them as professionals ([McKinsey, 2016](#)).

While the benefits of undergraduate research are clear, it is not an easy undertaking for instructors (or students). Time commitment and a lack of financial support and recognition often inhibit instructors from serving as undergraduate research mentors ([Baker et al. 2015](#)). One study found that instructors were motivated to serve as mentors if there was a clear institutional mission of undergraduate research, if the project aligned with their professional goals, and if they themselves had participated in mentored undergraduate research. Other factors that increased instructor participation included resources, such as financial compensation, and support, such as clear

institutional research processes from the Institutional Review Board ([Baker et al. 2015](#)).

In conclusion, undergraduate research is clearly beneficial to both students and mentors. The challenge, however, usually lies with a lack of resources and the time commitment. The key might be to find a way to integrate undergraduate research into the curriculum. For example, acknowledging the benefits of undergraduate research and the challenges faced by instructors, one institution decided to require this high-impact practice as a core course ([Steinmetz & Reid 2019](#)). Regardless of the format, undergraduate research is a beneficial high-impact educational practice.

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