Creating an Integrated Approach to Undergraduate Research at the University of Iowa

Undergraduate research enhances the research and creative scholarship of our faculty and enriches the education of our undergraduates. Over 25% of Iowa undergraduates will take part in mentored research before they graduate. This involvement provides millions of dollars of support for their education through scholarships and student employment from funded grants. In addition, undergraduate involvement in research improves the academic performance and graduation rates of students and provides the next generation of scholars.

Undergraduate research has gained tremendous attention nationwide as a "high impact" practice benefiting student success. However, the traditional model of a student mentee and faculty mentor is no longer tenable with increasing undergraduate enrollments nationwide. To address how undergraduate research can best serve undergraduates at the University of Iowa, as well as benefit the scholarship of our institution, a committee of faculty, staff, and students was brought together under the auspices of the Research Council.

The committee found three guiding principles that shaped their recommendations. These principles are to:

1. Broaden opportunities for undergraduate research
2. Maximize fit for students in undergraduate research
3. Better recognize current undergraduate research

Ideas that received significant support from the committee under these three areas are outlined below.

Broaden opportunities for undergraduate research

a. Create a web-based research portal where researchers could post positions and students could look for positions. This would tap into the many opportunities available for research experiences in colleges that have few or no undergraduates such as the College of Medicine and the College of Public Health.
b. Create opportunities with institutional partners that engage in research. Identify areas where research is done outside of traditional departments such as the UI Libraries, UI Museums, Office of the State Archeologist, etc. and engage students in their research efforts.
c. Integrate graduate and postdoctoral students more fully into undergraduate research mentoring. Could develop a mentoring practicum experience for graduate students similar to the teaching practicum that departments offer.
d. Develop "research intensive" courses to introduce students to scholarly research. An example would be to make an inquiry based First Year seminar around a topic of interest to the faculty member who would then have groups develop and address questions related to that topic. Research intensive courses offer the best opportunity for scaling up undergraduate research involvement.

e. Explore team option for research opportunities. Students can benefit from coming into research experience with a peer and recent work has shown this does not diminish their interactions with a research mentor.

Maximize fit for undergraduate research

a. Create pathways for research involvement to identify students who are genuinely excited to do research rather than those who feel they need to. The pathways approach would ensure a developed skill set and degree of commitment before moving to the classic faculty-mentored research level.
b. Develop an "Intro to Research and Scholarship" course as one pathway. Course would focus on broad skillset development and might be developed as online course to meet demand. Importance of making students better understand what research is about across the disciplines and making it engaging for students.
c. Students could develop an electronic portfolio to document their engagement in research. The portfolio would highlight skills developed and aid them in getting research positions and cataloging their experiences (presentations, publications, etc.). These portfolios could then be queried to track undergraduate research within the University and identify those who may be eligible for specific experiences (scholarships, summer research opportunities).

Better recognize current undergraduate research

a. Large amount of undergraduate research involvement is happening with significant impact, but not consistently recognized as research. Need to better recognize that breadth of undergraduate research and scholarship. Examples include: capstone experiences such as graduation with University Honors, engineering senior projects, senior dance choreography and performance.
b. Identify courses that are "research intensive" and denote them in the student record system. There are more than 60 independent study research courses offered for undergraduates and many more structured classes that focus on research and scholarship within a discipline. Have departments identify these courses, mark them in the student record system, and make them searchable in ISIS.
c. Identify bi-weekly student positions on campus that are research intensive. Have students register for these under URES:3992, the 0 s.h. Undergraduate Research/Creative Projects class so they will be recognized on the transcript and can be tracked by the University.
d. Develop an undergraduate Certificate in Undergraduate Research and Creative Projects to recognize student involvement in research, highlight our institutional focus as a research university, and greatly improve tracking for student involvement in research. The certificate could incorporate coursework from research intensive courses and the experiences highlighted through the electronic portfolio.