

Measuring Undergraduate Research Experiences Through Course Credit and Faculty Annual Reports

One valuable function that can best be performed by a centralized office for undergraduate research is developing systematic methods to monitor involvement of undergraduates and faculty in the variety of undergraduate research opportunities on campus. At the University of North Carolina at Chapel Hill (UNC-CH), we used several guiding principles in developing our instruments:

1. We chose to build our instruments into existing frameworks rather than designing and implementing new instruments.
2. We chose to capture data about specific types of undergraduate research experiences, rather than lumping these together as “participation in undergraduate research.”
3. We chose to rely on course enrollment/completion data, rather than student “exit survey” data.
4. We chose to tie our request to gather specific data to a particular purpose, so that the rationale for the effort was clear.

Taken together, our principles have allowed us to capture robust data over a six-year period about the specific aspects of undergraduate research that are the most relevant to our campus culture. The instruments we have developed require minimal faculty time and generate uniform data that can be compared from year to year to identify trends.

Research-intensive Courses

The undergraduate curriculum at UNC-CH offers significant opportunities for students to engage in research. We began by discussing the variety of undergraduate research experiences available in our curriculum with the directors of undergraduate studies in every department. These conversations were an essential part of the process we used to establish the Office for Undergraduate Research (OUR) as a useful resource for these individuals. Together we established the principle that courses in which over half of the course time is devoted to students conducting original

research and presenting research conclusions were worthy of the “research-intensive” designation, since these courses were distinctly different from others in the curriculum in which students were less involved in producing original work. We searched the course catalogue and developed lists of courses that appeared to meet the “research-intensive” criteria and asked the directors to confirm or edit these lists after consultation with faculty. Each fall we ask the directors to review and revise these lists. Our Office of Institutional Research and Assessment (OIRA) then developed computer scripts that can be run each year to examine the number of graduates from each department on campus who received credit for at least one of these courses. In addition to serving as a valuable benchmark that has allowed the OUR to document steady increases in undergraduate participation in these courses (currently more than 60 percent of graduates), credit for “research-intensive” courses meets one of the criteria for the Carolina Research Scholar transcript designation. Accordingly, students and faculty are motivated to help the OUR ensure that the course lists are accurate and up-to-date. Research-intensive course lists can be viewed at http://www.unc.edu/depts/our/students/students_credit.html, and recent data can be obtained at http://www.unc.edu/depts/our/admins/admins_handouts.html.

Faculty Mentoring

Faculty mentoring of undergraduates and graduates is a valuable and rewarding activity that can lead to publications and public presentations by the mentees. We chose to capture participation data through the College of Arts and Sciences Annual Report system. Under the “teaching” tab, faculty members are asked to report on “the wide range of faculty teaching accomplishments that are not reflected in the normal teaching load.” These include the number of honors theses directed and completed, the number of undergraduate research/independent study/creative projects supervised that did not result in an honors thesis, the names of undergraduate co-authors on publications, and

the names of students who presented their work at an off-campus meeting or on-campus symposium. The section also includes questions about masters and PhD theses that are directed and completed, and publications with those mentees. Since undergraduates are often co-mentored by postdoctoral fellows or graduate students on our campus, this section provides a valuable way to capture the extent to which those mentoring relationships result in joint publications.

Although currently limited to faculty in the College of Arts and Sciences, this system is valued by its faculty members because it provides more visibility for their work as mentors. The system was initially designed to provide data to monitor participation goals in our most recent Quality Enhancement Plan (which is part of the Southern Association of Colleges and Schools' Reaffirmation of Accreditation process). Consequently the administration was happy to work with the OUR in designing the questions and in revising the instrument in response to faculty feedback. Recent data can be obtained at: http://www.unc.edu/depts/our/admins/admins_handouts.html.