

Institutionalizing Undergraduate Research at Murray State University

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Murray State University

Murray State University (MSU), located in far-western Kentucky and classified as a Masters I institution, is one of six public comprehensive universities in the Commonwealth. Officials consider two research universities, University of Kentucky and University of Louisville, to be the state's "flagship" institutions. MSU serves an undergraduate (~8,000) and graduate (~2,000) student body of just over 10,000 students. Although MSU is working to increase the number of its international students, most students come from the 22 counties in the university's western Kentucky service region or from one of the counties in Tennessee, Missouri, Illinois, and Indiana that is adjacent to Kentucky. Underrepresented minorities comprise approximately 7% of the student body. A significant number of MSU students come from first-generation, low-to-modest-income families. Few of these students come to MSU with the expectation that they will pursue advanced degrees.

In 1998, a small number of relatively isolated faculty engaged undergraduates in research at MSU. Psychology, biology, and modern languages hosted small, departmental oral presentation sessions. In 2001, the University, with partial assistance from a Howard Hughes Medical Institute award, created the Undergraduate Research and Scholarly Activity (URSA) office. That year, URSA hosted *Scholars Week*, a campus-wide celebration of undergraduate and graduate student research, scholarly and creative work, with just over 150 student participants. By 2007, *Scholars Week* featured over 1,000 student oral presentations, posters, performances, and exhibits.

What brought about this dramatic change in only a few years? URSA, under the direction of its faculty Advisory Board¹, worked to raise the visibility of the undergraduate research activities that already existed, worked one-on-one with individual faculty to encourage and help them create opportunities for their students, and began to help MSU undergraduates understand that good grades and a college diploma, although important, are not all they need to make themselves competitive after graduation. URSA accepted a broad

definition/interpretation of research, scholarly and creative work, enabling the program to grow to its present level of activity. Historically, psychology, biology, chemistry, and modern language faculty have been the leaders on campus at providing their students with opportunities to engage in research and scholarly work. Today, we are seeing increasing numbers of students in the fine arts, history, social sciences, and agriculture engaging in faculty-mentored research and scholarly experiences.

With Advisory Board guidance, URSA created several programs designed to support and grow undergraduate research on the MSU campus. Already mentioned, *Scholars Week* celebrates our undergraduate and graduate students' research, scholarly and creative work and is our largest activity. Registration for *Scholars Week* is on-line and the program encourages participation by allowing any student who has a faculty mentor/sponsor to present the results of his/her work. Students give oral presentations, display posters, perform, and exhibit their work. Approximately 100 of MSU's 400 faculty sponsor students' *Scholars Week* work annually.

As a public institution, significant MSU funding comes from the state legislature. If we expect our legislators to support undergraduate research, they must understand the value of this kind of engaged learning experience. It should be kept in mind that for the most part, this kind of learning opportunity was not available to our legislators when they attended college. To help ensure that members of Kentucky's House and Senate and the Governor understand the importance of undergraduate research, MSU's URSA office created *Posters-at-the-Capitol*. This collaborative event among Kentucky's eight public universities (six comprehensive universities and two research universities) sends undergraduates to the capitol to present the results of their work to the state legislators. In 2001, the first year of the event, approximately 85 students participated. In 2007, this number grew to over 220 participants (the maximum number of students the capitol can accommodate). The students present posters of their

work and arrange individual meetings with their hometown and campus House and Senate members. Additionally, eight students are selected annually (one from each university) to give oral presentations on their work in the Capitol rotunda. The Organizing Committee (consisting of one representative from each campus) works to ensure that there is a broad representation of disciplinary areas. An important lesson was learned during the first few years of *Posters-at-the-Capitol*. Many student participants knew their representatives on a personal level. Some of our student participants and/or their parents have worked on the campaigns of their House or Senate members. This kind of relationship gives these students tremendous credibility with legislators and drives home the message in ways that a university or a university employee cannot.

Two important developments related to *Posters-at-the-Capitol* occurred in 2007. For the first time, students from Kentucky's Community and Technical College System presented the results of their research at *Posters*. Second, members of the organizing committee and other individuals identified by the eight university provosts collaboratively developed a proposal to fund a statewide undergraduate research fellowship program. This proposal is currently being considered by Kentucky's Council on Postsecondary Education (the higher education governing body in Kentucky). We hope the proposal will become part of the Council's 2008 legislative budget recommendation.

Two initiatives that provide students with financial support have been developed as part of the URSA program. A grants-in-aid program provides undergraduates with the opportunity to obtain up to \$500 to support faculty-mentored research, scholarly, and creative work for non-classroom projects. These funds may be used to support travel for field work, supplies, equipment, and other related expenses. Interestingly, these funds have enriched students' international study abroad experiences by enabling them to travel to museums, libraries, and even cemeteries (to study funerary art) that otherwise they would not have been able to do. In the 2006-2007 academic year, the URSA office added a small number of undergraduate research fellowships to its portfolio of initiatives. These highly-competitive fellowships provide our students with a \$2,000 stipend, a \$500 supply budget, and a \$500 mentor stipend.

Publishing is an important step in the research process. To give our students an opportunity to publish, MSU's president has provided support to publish *Chrysalis: The Murray State University Journal of Undergraduate Research*. This journal

publishes 8 to 10 of the best undergraduates works submitted to the journal annually. Works by students from a wide array of fields, including psychology, biology, organizational communications, art history, English, chemistry, and music have been published in the journal.

An important initiative, and one that we have not been able to find on many campuses, recognizes the important contributions of faculty to our undergraduate research program. In 2007, MSU awarded its first Distinguished Mentor Award to two faculty for their outstanding contributions to mentoring MSU students. Each faculty member received \$1,000 and is recognized at the May commencement. Dr. Paula Waddill, from the Department of Psychology, and Dr. Terry Derting, from the Department of Biology Sciences, each received an award in its inaugural year.

Building on the base that the URSA programs provided, the URSA director undertook the task of developing a proposal to secure funds through the Department of Education's (DOE) McNair Scholars Program. This DOE initiative provides undergraduates from first-generation-college, low-income families, and from underrepresented groups with research opportunities and other support to encourage their pursuit of PhD degrees. The program was funded at MSU in 2003 at \$220,000 per year and has provided 22 students annually with the opportunity to engage in a faculty-mentored research project, receive assistance with the graduate school application process, and obtain scholarship support. The McNair program has also enabled us to increase the number and disciplinary areas of our faculty mentors and to provide these mentors with modest honoraria (\$500) and travel support for their mentoring work.

What lessons have we learned over the past six years? We continue to find that engaging undergraduates in research, scholarly, and creative experiences changes our students' lives. Historically and from national data we know that students who come from low-income, first-generation-college families do not pursue advanced degrees in large numbers. Yet what we have found both anecdotally and in studies such as those that have been done at the University of Michigan (Hathaway, Nagda, and Gregerman, 2002) is that students who have engaged in research as undergraduates go to graduate school in larger numbers than their peers. At MSU, a person simply needs to consider what the undergraduates who have conducted research under the direction of Drs. Alysia Ritter, Joel Royalty, and Paula Waddill in the Department of Psychology have done. As an example, recently-graduated undergraduate research scholars they mentored, who came from first-

generation-college families or underrepresented groups, are pursuing PhDs in social psychology at the University of Illinois-Chicago, clinical/health psychology at the University of North Texas, and school psychology at Temple University. Graduates of the MSU McNair program are now pursuing a PhD in mathematics at the University of Tennessee in Knoxville, Masters degrees in engineering at Purdue University and the Colorado School of Mines, and a PhD in criminal justice at Indiana University. Would those students have pursued those degrees without involvement in undergraduate research? That outcome is a possibility, but the data strongly suggests that the likelihood would have been very small.

Did we learn any other lessons? We learned that it takes persistence, a dedicated faculty, and the development of our undergraduates' understanding of their fuller potential, a fact that is particularly true for those who come from low-income, first-generation-college families, or underrepresented groups. If the United States is going to successfully compete in a global marketplace that has "flattened" (Friedman, 2005), we must work to ensure that our graduates realize their true potential. For an increased number of our students that outcome means pursuing advanced degrees. For those of us who have the good fortune to work at institutions that serve large numbers of first-generation-college students and/or

students who come from low-income and underrepresented families, we have a great opportunity to make a difference. My belief is that our country's future success will be determined by how well we do our jobs.

References

- Friendman, T. (2005). *World is flat, A brief history of the twenty-first century*. New York: Farrar, Straus, and Giroux.
- Hathaway, R. S., Nagda, B. A., and Gregerman, S. R. (2002). The Relationship of Undergraduate Research Participation to Graduate and Professional Education Pursuit: An Empirical Study. *Journal of College Student Development*, 43, 614-631.

¹ The URSA Advisory Board consists of two faculty from each of the universities' five colleges (Humanities and Fine Arts; Science, Engineering and Technology; Health Sciences and Human Services; Business and Public Affairs; and Education), the School of Agriculture, and one representative from the library. The URSA office is staffed by a half-time director and a half-time program specialist.