

CURQ Vignettes Summer 2012

Undergraduate Research at the State's Capitol: Lessons Learned and a Look to the Future

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State "Posters on the Hill" events, offering students opportunities to showcase their research at the state level and meet with their state legislators to discuss the merits of undergraduate research, are becoming increasingly popular to promote undergraduate research. Currently, more than 20 states offer these important events. In 2006, a group of educators from private and public institutions in Pennsylvania convened in Harrisburg, the state capital, to collaborate on plans to showcase undergraduate research from Pennsylvania institutions of higher education. The group formed an important partnership with the Pennsylvania Legislative Office for Research Liaison (LORL) that was key to its future success. As a result, the Pennsylvania Undergraduate Research at the Capitol (URC-PA) event has been conducted in Harrisburg for the past four years and is the only state poster event that is held twice a year. To date, 63 institutions and 398 undergraduates from both small and large private institutions and large public institutions have participated in URC-PA, either in the fall or spring of an academic year.

The purpose of URC-PA is to bring together college students, faculty, Pennsylvania legislators, and legislative staff to share the experiences of students engaged in research or scholarship at their institutions. To that end, URC-PA provides an opportunity for students to present posters about their work at the State Capitol, and for students and their faculty mentors to meet with legislators and their staffs to demonstrate the quality and significance of undergraduate research experience. The fall and spring events each year are organized by a committee of faculty members and administrators from several public and private institutions throughout the Commonwealth of Pennsylvania. Importantly, the biannual events are timed to coincide with the legislative calendar. The group has been fortunate to have the support of LORL, which provides a link between the legislature and the academic community.

LORL has provided much logistical work in organizing committee meetings at the state capital, as well as coordinating the process for students to submit abstracts of their posters

and creating program brochures. LORL has also advertised the event to legislators and their staffs and encouraged them to interact with students during the actual poster sessions. It is because both state and private institutions are active participants in URC-PA that we are currently able to offer both a fall and a spring poster event. Each year, both events have had a nice mix of students and faculty representatives from both state and private institutions, providing fairness and balance in presenting a comprehensive picture of undergraduate research at the State Capitol. Since members of the organizing committee represent both public and private institutions, coordinating and recruiting participation from both types of institutions for either the fall or spring URC-PA events has been relatively simple.

Engaging Undergraduate Research Professionals: A Statewide Symposium

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Since 2008, the University of Central Florida (UCF) has invited faculty, administrators, and professional staff to participate in the Florida Statewide Symposium: Engagement in Undergraduate Research, focused on developing and strengthening undergraduate research. Florida's public and private four- and two-year universities and colleges are invited to participate in this two-day event. The symposium has been extremely successful, and UCF is committed to sustaining it annually. Over the past four years, the event has averaged 65 participants per year from 17 institutions. The symposium runs early in the fall semester (September or October) on a Friday and Saturday. The event is organized by the UCF Office of Undergraduate Research, with support from the Honors College, university libraries, the McNair Scholars Office, and the Office of Research and Commercialization. UCF advertises to potential participants through email. Emails are directed to in-state colleagues, including members of the Council on Undergraduate Research, directors of National Science Foundation-Research Experiences for Undergraduate programs, directors of McNair programs and honors programs, and other contacts found through online searches of undergraduate research. Participants are invited to submit short abstracts for interactive sessions or poster presentations.

Sponsorships on campus have permitted the organizers to invite keynote speakers, and thus each symposium starts early Friday afternoon with a keynote address. Participants give presentations throughout Friday afternoon and the day concludes with a wine and cheese reception and poster presentations. On Saturday, the event starts with a program

directors' breakfast, followed by interactive presentations throughout the day until late afternoon, with a break for lunch. In 2008 participants agreed that the symposia should stay at UCF because of its central location, in Orlando. The organizers keep the cost low (a \$50 registration fee); the costs include the reception, a boxed lunch, the printed program, and parking. Participants have remarked that the low cost has allowed participation to continue during the economic downturn.

The symposium has followed a similar format each year, but the model is adjusted slightly in accordance with recommendations from participants' evaluations each year. For example, more time for networking was suggested during the first year, and the symposium organizers planned additional networking times in 2009. In 2010 several participants suggested more discussion of early research experiences, and a keynote speaker with expertise in getting students involved as first-year students was invited to the 2011 symposium. Some of the topics for presentations and workshops have included curriculum development for undergraduate research, promoting tenure through undergraduate research, mentoring, program models, training undergraduate researchers, and assessment.

One outcome of this event is the creation of a statewide conference for undergraduates to present their work, the Florida Undergraduate Research Conference. The first one occurred in 2011 at the University of North Florida and the 2012 event occurred at Stetson University. Several other institu-

tions are committed to future annual student conferences. (For more details about the Florida Statewide Symposium, see www.researchsymposium.ucf.edu.)

Regional Research Conferences and On-Campus Assessment: A Case Study at Whittier College

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Whittier College, a small private, Hispanic-serving liberal arts college in the Los Angeles area, has been an active participant in the Southern California Conference for Undergraduate Research (SCCUR) for more than a decade. In the past, participation of students and faculty in this regional conference has been informal, and little campus-wide assessment of the impact of participation has been undertaken. Recently, Whittier College identified undergraduate research as a focus for re-accreditation, and the college joined an initiative to institutionalize undergraduate research that was sponsored jointly by CUR and NSF. One result was the institution of a campus-wide day in April celebrating research, scholarship, and creative activity. Creating this celebration was important for three reasons. It has increased the visibility of public presentation, a requirement of our curriculum for graduating seniors; it has promoted student research in disciplines that have not seen research as a practice important to their

Table 1: Comparison of Averages (standard deviations) of Critical Thinking as Displayed in Presentations of Regional Conference Participants and On-Campus Only Participants

Questions (inter-rater reliability)	SCCUR and On-campus Participants (n = 7)	On-campus Only Participants (n=32)	t test with unequal variance
How well does the student demonstrate facility with English conventions and usage? (r =.40)	4 (0)	3.61 (.52)	4.25
To what extent does the student demonstrate sophisticated intellectual analysis of the world around him or her? (r =.30)	4 (0)	3.25 (.72)	5.91
To what extent does the presentation employ appropriate scholarly apparatus for the field, e.g., illustrations, surveys, graphs, charts, data, etc.? (r =-.07)	4 (0)	3.2 (.89)	4.94
How effectively does the student situate the project within a broader theoretical context? (r =.61)	3.71 (.94)	3.13 (.49)	2.37
Conclusions and related outcomes are logical and reflect students' informed evaluations of evidence and perspectives. (r =.49)	4 (0)	3.23 (.88)	4.88
Overall Average (r =.48)	3.94 (.10)	3.29 (.63)	5.59

Note. All t tests were significant at $p < .001$.

students; and it has encouraged our students to consider graduate school and professional careers—which is particularly important given that 48 percent of Whittier students are students of color (31 percent are Hispanic).

As part of our effort to assess undergraduate research's impact on students' ability to engage in critical thinking and communication, faculty observers rated students' presentations at the on-campus conference, using a common rating instrument adapted from the Association of American Colleges & Universities' rubric for critical thinking. The five-question instrument showed adequate cohesion (Cronbach's $\alpha = .87$) and largely significant inter-rater reliability. We then compared averages for those students who had already participated in the previous November's Southern California regional conference with those of students who had not. We found that across all questions, the average score of students participating in both SCCUR and the on-campus conference was significantly greater than the average of students participating only in the on-campus research day (see Table 1). The biggest differences were in areas of intellectual analysis and use of evidence and logic for conclusions.

Our findings show that encouraging student presentations of research to off-campus peers as well as to on-campus peers can increase the value of undergraduate research to student learning. These results may suggest a practice effect on quality of presentation, because SCCUR came the semester before the conference on campus. It suggests regional conferences can increase student researchers' critical thinking and communication.

Creating and Cultivating a Successful Undergraduate Research Conference: Tips from the Trenches

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The Georgia Undergraduate Research in Psychology (GURP) conference is a regional undergraduate research event held annually at Kennesaw State University. The day-long event includes oral and poster presentations, a workshop or panel discussion of interest to undergraduates, and a keynote address. The conference has expanded considerably since its inauguration in 2002 and attracts students from multiple states and a range of institutions, from community colleges to research-intensive universities. Following are key factors that we believe have contributed to our success in creating and sustaining a thriving undergraduate research conference.

Publicize the event widely. The biggest key to success is making sure that people know the conference exists. We have engaged in extensive marketing strategies, including emailing past mentors of students and faculty members at

regional institutions, posting to listservs, and distributing flyers at professional conferences.

Make it affordable and accessible. Our registration fee is kept at a minimum (\$25) and covers expenses for supplies (e.g., program photocopying, folders, lanyards), breakfast, lunch, and refreshments. Fee waivers are available for students with financial constraints. The conference is one day so that lodging is usually not necessary. Information related to the conference is readily accessible on our website (<http://www.kennesaw.edu/gurp/>) and includes the call for proposals, the online submission form, registration links (including a link to a secure server to pay online), the conference schedule, directions, and lodging information.

Ensure stakeholder buy-in. Coordinating an undergraduate conference takes considerable effort, so it is important to ensure that the key constituents are strongly invested in the event. Because contributing to the conference can enhance individuals' feelings of ownership and pride in its success, we encourage members of the hosting department to participate in planning the event; we invite the dean of our college to give opening remarks; and we ask faculty from other colleges and universities to serve as judges and panelists. These steps offer added bonuses of showcasing within our university our departmental accomplishments and promoting collegiality across campuses.

Offer extras. Extras keep students coming back and generate good publicity. We give monetary awards for top presentations, raffle books donated from publishers, hand out pens and lanyards with the conference logo, and provide meals and snacks throughout the day.

Organize strategically. It is important to be tactical when planning the conference program. We have found that scheduling posters as the first session of the day increases attendance for subsequent oral presentations. To highlight student research, we schedule all student presentations early in the day, followed by the panel discussion and keynote speaker. Judges can confer and select the award-winning presentations during the panel discussions and keynote. The awards ceremony and raffle are scheduled at the end of the day to encourage attendance for the full day. Organizing a regional undergraduate research conference can be challenging, but these tips should be helpful for coordinating a successful disciplinary, multidisciplinary, or interdisciplinary event. Undergraduate research conferences enrich students' education and are personally rewarding for faculty. By creating an inclusive environment in which undergraduates are socialized into the practices of our discipline, we are cultivating the future researchers in our field.