

Research Experiences Working Group
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The majority of the Research Experience proposals focused on helping students connect their liberal arts background to the broader world through purposeful inquiry based on genuine research opportunities that tackle real-world issues. Most of the proposals clearly came from faculty, students and staff from the sciences as evidenced by references to SURF or the Science Planning Committee, but the ideas expressed were potentially broad in scope and should encompass the humanities and social sciences. Indeed, the Association of American Colleges and Universities' LEAP (Liberal Education & American's Promise) initiative identifies undergraduate research opportunities as a high-impact educational practice for today's college students (<http://www.aacu.org/leap/hips>). The proposals elicited by CMP's strategic planning process focus on making research opportunities flexible for students and more universally available. These goals are compatible with the recommendation of the 2009 college-wide working group that proposed, after an intensive year-long study of research opportunities across the curriculum, placing a culture of purposeful inquiry at the center of a Smith education. Consistent with this earlier working group's report, we position opportunities for open-ended research mastery as a type of superordinate virtue that fuses together several of Smith's essential capacities.

Student Faculty Research Collaborations

Three out of the eleven proposals (17, 92, 185) made explicit reference to the Summer Undergraduate Research Fellowships (SURFs) sponsored each year by the Science Center. Proposal 92 argued that Smith needs to maintain (and, if possible, expand) the number of SURFs made available each year to talented students. Demand for SURFs among domestic and international students continues to rise. Last year there were 209 applications made by Smith students for 150 spots. International students, in particular, are attracted to SURFs because unlike many programs we do not require U.S. citizenship. Funding for about 150 SURFs will be available again for 2016, but after summer 2016 the HHMI grant that supports a part of the SURF program will run out. Without the money made available by HHMI, the Science Center will only be in a position to fund about 125 SURFs in summer 2017 at the current level of stipend (\$3,800 for 10 weeks). If the stipend is increased to \$4,000 for 10 weeks, then the number of stipends likely in 2016 is 142 and in 2017 without the HHMI funds approximately 118. Proposal 92 would like Smith to invest in sustaining and even expanding SURF opportunities for our students. There is evidence that SURF students are more likely to go to graduate school, so declining opportunities with SURF may lead to fewer Smithies attending graduate programs.

Similarly, proposal 17 made the case that we need to increase the amount of the SURF fellowship (currently \$3800 for 10 weeks of research activity, but probably should be increased to \$4,000). Many other institutions offer more money for SURF-type fellowships. Exacerbating the situation is the fact that there is no housing allowance attached to the SURF. In order to live on campus during the summer, students were charged \$148 a week, which included a meal plan except for Saturdays and Sundays when students had to buy their own food. Because of our relatively low fellowship amount and the costs of housing and food, Smith may not be supporting fully our mission of access. Due to relative costs, lower income students may make the decision to live at home and do menial work rather than participate in SURF.

The final SURF related proposal (185) centered on paying faculty a stipend for each SURF student they supervise. Faculty expect to conduct research over the summer months. However, sponsoring a SURF student does not necessarily advance a faculty member's research in a significant way. SURF is just as much about teaching (for the faculty) as it is about research experiences (for the student). Undergraduate students are not graduate students, and the former often need close supervision. In the words of 185's sponsors, "we could advance our research more quickly by working alone, without students." Like the other two proposals, this one recognizes that the SURF program is an important way to promote our students intellectual lives, but it requests more formal recognition that faculty who participate are teaching for 11, rather than 9 months, and taking time out from their summer research to advance the mission of the college with respect to undergraduate education.

Note that when the HHMI grant ends, we would need to add about \$100,000 (25 HHMI funded students X \$4,000) to the SURF budget to maintain our current SURF awards of 150 students each year. It's hard to estimate how many faculty from Divisions I and II would find SURF-type fellowships attractive for their students, but if we started with 100 humanities and social science fellowships, we would need to budget \$400,000. This would not include administration of the fellowships.

Related to the SURF centered proposals are two more that ask for an infusion of money to promote student research conducted with faculty. These proposals (94 and 160) are very similar. Number 160, advanced by four units on campus, asks that Smith sponsor a new fund designated for students applying to conferences. This fund could be \$1500 per student, administered much like Praxis, except the money would be available over a student's four years at Smith. Right now finding money to attend a conference is like going on an "Easter egg hunt" to different sources (e.g., Dean of College's Office, SGA, WCWL, GSC, Science Center) and may disadvantage students who do not know how to play the "academic game" of grant seeking. A segment of our student body, those most uncomfortable with academia, may lose access to professional development. Proposal 94 recommends that Smith develop a "student adventure fund" to further connect students with a larger body of scholars working on similar intellectual problems. In addition to providing expanded access

to travel funds, this proposal explores possibilities for supporting travel for classes or teams of students for presentation purposes.

Enhancing Student and Faculty Grant Opportunities

In addition to enhancing existing student opportunities, proposals 20 and 115 suggested that funds be made available for two entirely new projects. Proposal 20 pushes the idea of student-centered research as far as possible by establishing a granting agency at Smith for student research. Students would be asked to attend a grant-writing workshop before submitting and, if awarded, managing a grant to complete a project of her own choosing. Grants are to be awarded competitively and students may apply in groups. These grants are not intended to have direct faculty oversight. It's possible that funds could be diverted from Praxis to provide funding for this program. Related to this proposal, number 115 puts attention back on the faculty by opening up an internal funding source for external grant proposals that were judged worthy but not funded. This proposal acknowledges that success rates for grants are so low that it is becoming more and more difficult to encourage junior faculty to invest valuable time applying for a grant that they will probably not get. This new funding source would encourage the writing of initial proposals and support collection of pilot data that could be incorporated into an external grant resubmission. These two proposals focus attention on the importance of establishing a research infrastructure for younger investigators at both the undergraduate and junior faculty levels.

Integrative Research Centers

The final four proposals attempt to build formal mechanisms for enhancing Smith's culture of research and purposeful inquiry. Two of these proposals imagine ambitious new projects that use Smith's campus and surrounding area as natural laboratories. Number 154 envisions a long-range ethnographic research project situated on the Connecticut River Valley (from Springfield to Greenfield). This project would focus on the communities in these regions from historical, anthropological, and sociological perspectives. This project would engage undergraduate students and interested faculty from diverse disciplines. Proposal 158 is highly focused on building a state-of-the-art mesocosm facility on campus that would allow experimentation on the impacts of changing environments on flora and fauna. The closed environment mesocosm would be used to study the impact of global climate change and promote the emergence of female leaders trained in climate science.

The final two proposals integrate individual research experiences on campus in a systematic way. Number 93 argues that course-based research experiences (CBREs) represent a "paradigm shift" in the way that students and faculty think about the undergraduate curriculum. CBREs exist on Smith's campus, but this proposal pushes the development of these courses even further as a way to alleviate student demand for research experiences, advance faculty scholarship, and provide

answers to questions that will serve the public good. Perhaps as a way to integrate many of the research experience proposals, number 95 suggests that sustained purposeful inquiry should be at the core of a Smith education. A Center for Research and Purposeful Inquiry would help to satisfy this emerging capacity. The Center would coordinate research opportunities for students, support curricular development in course-based research, and bring together allied initiatives across campus such as design thinking, summer based research experiences (such as SURF), and formal support for students interested in graduate school. It would also centralize the infrastructure and administration of the varied programs put forth across these proposals. Right now, there are multiple people and offices involved in, for example, funding student research and conference travel. Budgets and spending are similarly dispersed. There is an argument to be made that we might be able to consolidate some of these resources to manage better our current and future investments in this area.

Larger Themes

As noted in the opening paragraph, most of these proposals offer ways to enhance a collaborative relationship between students and faculty on research projects of mutual interest. Some of these proposals have a “just do it” quality to them (e.g., provide students with personal travel funds), but because of the amount of money involved they cannot be viewed in isolation from the larger set of proposals. Viewed as a group, the proposals place a premium on student-faculty research collaboration.

Division III faculty have been at the forefront of working with students on research (e.g., through summer SURF projects) and over time have developed a good feel for the demands of collaborative research. Students are increasingly asking to conduct independent research across disciplines and it is becoming increasingly hard to meet this demand without sacrificing the time necessary for faculty to maintain their own research programs. In part these proposals envision ways to help faculty across all divisions cope with student requests, such as through the formation of a Center for Research and Purposeful Inquiry. This kind of center might have connections to other strategic planning initiatives (e.g., perhaps emerging from Creative Campus). The Connecticut River Valley and mesocosm projects may connect to sustainability initiatives on campus, whereas course-based research experiences may feed into some of the creative capacities emerging from the initiatives sent to CAP and the curriculum working group. The proposals under student and faculty grant opportunities are somewhat unique proposals and should be considered under their own merits.

A bold idea would be to state that one of the missions of Smith College is to offer a research opportunity to each student in the course of their undergraduate study on campus or abroad. These research opportunities might be modeled after Praxis, which allows every Smith student the chance to elect an internship funded by the college. We also could use the SURF program model to create summer research

fellowships for students from all divisions. The Stride program is another venue that offers faculty-students research collaborations. It seems that the strategic planning process should be used to develop a sustainable strategy to achieve the research mission of the college for all students across disciplines. For instance, as noted, the college may need to create an infrastructure that facilitates and centralizes the process of making a research experience possible and accessible to all students.

At the same time it is important to underscore the current gaps in our institutional research support infrastructure for collaborative knowledge creation and research data management. For example, increased number of students and extended timeframes for research projects will have an impact on library and computing services. With the redesign of the Libraries we have an opportunity to build capacity for a robust research support environment. It requires a collaborative approach in developing new service models to support this work of dissemination, showcasing, and archiving of research outcomes.

Although not discussed in these proposals, we might want to rethink the current structure of the departmental honors project with the research mission of the college in mind. More students are doing interdisciplinary work and the current structure of the honors project is too rigid. Also, the honors program is targeted to students with a strong academic background. If we expose students to research early on in their career at Smith, maybe more of them would undertake a significant research project during their senior year. In any event, the honors project should serve as another way to guarantee research opportunity.

At this point, students in the sciences seem to have more opportunities for research experience during their undergraduate studies, although student demand in Div III is quickly outstripping available resources. The college needs to address resource strain in the sciences and promote a culture of inquiry across all Divisions. By the end of the strategic planning process, we would like students in **all divisions** to have equally rich opportunities for purposeful inquiry at Smith.