

Summer Research Programs

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Randolph College

Randolph College, located in Lynchburg, Virginia, was founded in 1891 as Randolph-Macon Woman's College. Randolph College began admitting men for the fall of 2007 and is currently a coeducational, liberal arts, United Methodist-related college offering 28 major programs, with 95 faculty and approximately 750 students from over 40 states and more than 40 countries. In the state of Virginia, R-MWC tops all private colleges and all but one public college in the percentage of students who earn a Ph.D. The psychology curriculum emphasizes a research-based experiential approach to the study of psychology. Students are introduced to research early on with a two-semester course on statistics and research methods and design. They then complete a 300-level course with a laboratory and finally, complete a two-semester research project during the senior year. A detailed history and full description of the psychology department at Randolph College can be found in our chapter entitled *Senior Thesis/Capstone Approach*, this book.

The Summer Research Program at Randolph College began in the summer of 2000 after a group of faculty submitted and received a grant from the Jessie Ball duPont Fund to support a campus-wide student-faculty summer research program. After three years of partial funding through the duPont Fund, the College was able to fully endow the program through alumnae gifts and individual donations. The program objectives include: building academic confidence among students, strengthening student-faculty relationships through collaborative work, broadening knowledge about diverse research methodologies utilized in various disciplines, developing students' writing and oral communication skills and encouraging enthusiasm for research and scholarship throughout campus. Faculty members and students from all disciplines are encouraged to apply for the program. Faculty who have received outside grants from Virginia Foundation for Independent Colleges (VFIC), NSF, and the Virginia Department of Education have been allowed to participate in the program as well. They have been able to utilize the structure of the program for their students, even though the funds come from another source. Or, if their funds do not include a stipend for a student

research assistant, then they are able to apply to Randolph's program for partial funding.

For the past seven years, projects have originated out of the natural sciences, social sciences, and humanities with faculty from English to Physics involved in collaborative work with students. In the past seven years, almost 90 projects have been funded, which is approximately 11 each year. This program consists of an 8-week commitment that includes active research experience, lab and field work when appropriate, student presentations on research progress, weekly multidisciplinary seminars with speakers from within and outside the college, as well as social events for faculty and students. Both faculty and students receive a stipend for the 8-week period as well as a budget to support the scholarship. Funds from the budget are used in various ways including buying equipment and materials, covering travel expenses to collect data, or even paying research participants. Additional financial support is available for student travel to conferences to present their research. During the summer research program, students live on campus and pay a nominal fee for their housing.

At many institutions, summer research programs for undergraduates are offered primarily in the natural sciences with experiences limited to biology, chemistry, technology, engineering, mathematics, physics, health and medicine. Some programs such as the ones at University of Oregon and Case Western Reserve are offered only to minority students. Programs for minority students may have been initiated due to evidence that faculty-student research collaborations are a particularly effective aid in the retention and persistence of minority undergraduate and graduate students (Nagda, Gregerman, Jonides, von Hippel, & Lerner, 1998).

Many of the summer research experiences in psychology, including the programs at Buffalo State College and Western Kentucky, are ongoing projects funded by external entities such as NSF and NIMH. The summer research program at Randolph College does not rely on the availability of outside grants as do many other research programs around the country. In contrast to these programs, faculty and students

from any discipline at Randolph can participate in the program.

A unique aspect of the Randolph College research program is that proposals can initiate from students, faculty, or both. A student may have a research interest and find a faculty member with whom to collaborate or a faculty member may ask a student to collaborate with him or her on an ongoing or new research project. A faculty member can request two students if the project is large enough to necessitate more than one student. In the application process, students and faculty identify their roles in the project and the goals they will accomplish. A time frame for project completion is required but the program committee does not expect an entire project to commence and be completed during the 8-week period. In fact, some students use the summer research experience to initiate a senior research/capstone project that will continue into the next academic year.

A committee comprised of faculty and administrators evaluates the proposals focusing on how significant the research experience will be for the student's intellectual growth. It is expected that students will have a meaningful research experience within the chosen discipline during the 8-week program. Proposals are due in early February and decisions are made by March so that students can make their summer arrangements.

The following information is used in the assessment of the Randolph College Summer Research Program: number of students in the program, diversity of departments represented, number completed projects or projects which expanded into the next academic year, number of external presentations, growing demand among students and faculty for inclusion into the program, and joint student-faculty publications. In the coming year, additional assessments of Randolph's summer program, such as the ones discussed in the next section, may also be implemented.

Benefits of Summer Research Experiences

Both faculty and students benefit from the summer research program. The summer research program provides students and faculty with the time required to investigate a particular topic in-depth without the additional academic commitments that occur during the regular semester. In addition, the program allows students the opportunity to experience the mentoring relationship present in graduate school. Many summer research participants at Randolph College have gone on to present their

scholarship at regional and national conferences. One hundred percent of students who have participated in the Randolph College summer research program have remained at the college. This is consistent with research that has shown student-faculty research partnerships affect student retention (Nagda, et al., 1998). For faculty at a small liberal arts college where teaching is the priority, the resources available during a summer research program can be essential for productivity in scholarly activities.

Although research experiences for undergraduates have been long hailed as beneficial, the assessment of these experiences has only recently been addressed in systematic ways. David Lopatto, Professor of Psychology at Grinnell College, identified three key findings among summer research participants at four liberal arts colleges (Lopatto, 2003). First, participants reported that they developed expertise in their chosen field including learning about a topic in depth and understanding the research process of the discipline. Second, students who worked collaboratively with a mentor benefited the most from the research experience. In addition, working with peers increased reports of satisfaction and gains in the ability to collaborate and show leadership. Third, students who had the opportunity to learn through example from their mentors rather than working primarily independently or following the mentor's orders were more satisfied with the research experience. In interviews with 76 summer research participants at the same four liberal arts colleges, Seymour, Hunter, Laursen, and DeAntoni (2004) concluded that undergraduates gain from their research experiences in the following ways: an increased confidence related to conducting research, increased knowledge and skills, identification or confirmation of future career and educational plans and preparation for those plans, and increased positive attitude toward responsibility, learning and working.

Lopatto (2004) surveyed 1,135 summer research participants at 41 colleges about their summer research experiences using an online assessment tool, the Survey of Undergraduate Research Experiences (SURE). The highest rated items on the survey included understanding the research process in the field, understanding how scientists work on real problems, and learning laboratory techniques. Participants also reported a high satisfaction level with both the research experience and the mentoring relationship. A small number of summer research participants included in the study were conducting research in the social sciences. It is logical that many of the benefits identified in the summer research programs in the sciences would also exist for those studying psychology.

Summer Research in Psychology

The summer research program is a natural extension of the psychology curriculum at Randolph College and all of the full-time faculty members in the department have participated during the seven years the program has existed; in fact, most have participated numerous times. There have been 13 psychology projects funded in the past seven years with 17 students participating. Half of the faculty-student collaborations have resulted in presentations at national conferences including the Society for Neuroscience, Society for Research on Child Development (SRCD), Association for Psychological Science (APS), American Psychology-Law Society (APLS), and Undergraduate Research Posters on the Hill sponsored by CUR. One psychology student whose project began during the summer research program won the Psi Chi Undergraduate Research Award. In addition, other students have been recognized at the Virginia Psychological Association for Best Undergraduate Research Paper.

Topics investigated in collaboration with students include: an inventory and history of the R-MWC antique psychology lab equipment collection which included a trip to Psychology's national archive; creating an environmental audit for greening the campus, the use of drawing to enhance children's memory, the role of humor in health and illness, and the effect of drugs on memory in rats in the sand maze. Several of these projects are also in the process of being written up for publication.

Conclusion

In summary, developing a summer research program for undergraduates at a college or university has multiple benefits for the students, faculty, and institution. This type of program helps to build community among faculty and students. The students learn from their faculty mentors as well as from each other. They are exposed to a variety of research approaches among different disciplines. In addition, everyone in the college community is invited to the final presentations at the end of the program. The experiential learning that takes place in the summer research program is an integral part of the liberal arts tradition at Randolph College.

References

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