

Findings from EHHP Survey on Faculty-Mentored Undergraduate Research January 2017

Overview

In the current version of the most recent College of Charleston Strategic Plan, the first goal is to provide students a highly personalized education based on a liberal arts and sciences core and enhanced by opportunities for experiential learning. The highest ranked tactic to meet this goal is the *integration of classroom learning with at least two of the following: research and creative activities, civic engagement, study away, internships, and peer education*. To this end, the College has established and enhanced numerous programs and offices to promote these types of high impact learning experiences. The campus-wide Undergraduate Research and Creative Activities (URCA) program offers competitive funding to research teams comprised of faculty and undergraduate students. Within the School of Education, Health, and Human Performance (EHHP), support for undergraduate research assistants is included in the faculty fellow initiative of the Center for Partnerships to Improve Education (CPIE). Requests can also be made by faculty and students through EHHP Research and Development (R&D) Support, a supplemental funding initiative housed within the Dean’s Office.

A review of publicly posted URCA reports reveals that EHHP disproportionately benefits from support for faculty and undergraduate student research teams. Since 2013-2014 (earliest available report), URCA has provided funds to 266 research teams campus-wide, of which only 15 (6.6%) include a faculty or student from EHHP. EHHP typically houses 15-17% of total declared majors and 9% of the roster faculty, according to the Planning and Reference Fact Book compiled by the College of Charleston’s Office of Institutional Research. See Table 1 for details on how URCA dollars have been distributed in EHHP. It is important to note that these funds were awarded to just six EHHP faculty, all in the Department of Health and Human Performance (HEHP), including two who no longer work at the College. An additional four research teams consisted of a public health student with a non-EHHP faculty member. These students are assumed to be B.A public health majors who are currently not housed within EHHP and therefore omitted from the table below.

Table 1. Composition of research teams supported by URCA from 2013-2016.

Composition of Research Team	# of Research Teams
EHHP faculty + EHHP student	2
EHHP faculty + non-EHHP student	5
Non-EHHP faculty + EHHP student*	1
EHHP faculty + public health student**	7

* The student double majored in an EHHP program and a non-EHHP program. The research had a non-EHHP focus.

**Assumed to be EHHP-based public health majors (B.S.) rather than public health majors housed in the School of Humanities and Social Sciences (B.A.)

Since 2011, CPIE has supported ten undergraduate research assistants who worked directly with five faculty members on research initiatives. Although CPIE funding is open to faculty in both EHHP departments, only Department of Teacher Education (TEDU) faculty have included undergraduate researchers in their proposals. Funding for the first few students was initiated as special requests

from TEDU faculty members. The successful involvement of undergraduates into these research projects prompted CPIE to consider how to embed them more consistently. The result was the inclusion of funds for undergraduate research assistants in the generous CPIE Faculty Fellow award that has supported three faculty members and nine undergraduates since 2013. In 2014, EHHP R&D Support began providing supplemental dollars for eligible activities to EHHP faculty, staff, and students. Since then, EHHP R&D Support has provided funds for seven undergraduate students to conduct research or present at professional conferences under the tutelage of faculty members. Two of these professors, both from HEHP, are no longer employed at the College of Charleston. It is clear that faculty-mentored undergraduate research regularly occurs in EHHP but could benefit from efforts to broaden both participation and funding sources.

Survey

The project consisted of collecting and analyzing survey data about faculty-mentored undergraduate research. Roster faculty (including visiting faculty) in the College of Charleston's School of Education, Health, and Human Performance (EHHP) were invited to respond to items intended to gauge their perceptions, knowledge, and experiences with faculty-mentored undergraduate research. The survey consisted of 20 items—16 multiple choice, two open response, and two ranking. Due to skip logic settings, each participant only saw 16 items (13 multiple choice, 1 open response, and 2 ranking). Participants were able to provide additional explanations for two of the multiple choice items. Response data were collected and organized via Survey Monkey and analyzed by the investigator.

Results

Solid participation across both departments

The survey invitation was sent to 50 EHHP faculty, of whom 18 (36%) are housed in the HEHP and 32 (64%) in TEDU. Ten HEHP faculty (45.5%) and 12 TEDU faculty (54.5%) completed the survey, totaling 22 (44%) faculty members in EHHP. The 10 in HEHP represent 55.5% of the HEHP faculty. The 12 in TEDU represent 37.5% of the TEDU faculty.

Representation across faculty ranks

Of the 22 participants, nine (40.9%) are assistant professors, five (22.7%) are associate professors, six (27.2%) are professors, and one each (4.6%) is a senior instructor and visiting faculty member. Five of the nine assistant professors (55.6%) are from TEDU and four (44.4%) are from HEHP. Two of the five associate professors (40%) represent TEDU and three (60%) are housed in HEHP. Four full professors (66.7%) are from TEDU and two (33.3%) are from HEHP. The lone senior instructor is housed in HEHP and the sole visiting faculty member is in TEDU. No faculty with the rank of instructor or emeritus completed the survey.

Over 90% of participating faculty are tenured or tenure-track

Fifty percent (n=11) of the participants are tenured, 40.9% are tenure-track (n=9), and 9.1% are not tenure-track (n=2). Among tenured faculty, 54.5% (n=6) of those completing the survey are housed in TEDU while 45.5% (n=5) are housed in HEHP. 55.6% (n=5) of the tenure-track participants are housed in TEDU, while 44.4% (n=4) of are housed in HEHP. Non tenure-track participants (n=2) equally represent TEDU and HEHP.

No consensus on a definition

When presented four options for defining faculty-mentored undergraduate research, and asked to select the one that "best reflects your thinking," 45.5% (n=10) of respondents selected option three

and 22.7% (n=5) each selected options 1 or 2. Two individuals (9.1%) selected a fourth option, *other*, and used the text box to elaborate. In one case, the participant stated “technically, both of the above” and explained that the teaching oriented nature of the institution makes undergraduate research participation an “exercise/learning experience” rather than a significant contributor to the discipline. In the other case, the respondent “think[s] it can be a combination of both” but that certain research designs may be better suited for undergraduate students not pursuing a thesis or other graduate level project. Five faculty members selected option 1, with 60% (n=3) from TEDU and 40% (n=2) from HEHP. Five faculty members selected option 2 also with 60% (n=3) from TEDU and 40% (n=2) from HEHP. Of the 10 faculty members who selected *all of the above*, 60% (n=6) are in TEDU and 40% (n=4) are in HEHP. Both respondents who chose *other* represent HEHP. Table 2 shows the selection rate for each of the four options.

Table 2. Possible definitions of FMUR and the number of faculty selecting each option.

Definitions of FMUR	# faculty (%)
Option 1 - An inquiry or investigation that is conducted by an undergraduate student being advised by a faculty member and that makes an original intellectual or creative contribution to the discipline	5 (22.5%)
Option 2 - An inquiry or investigation that is conducted by a faculty member being assisted by an undergraduate student and that makes an original intellectual or creative contribution to the discipline	5 (22.5%)
Option 3 – All of the above	10 (45.5%)
Option 4 – Other. Please explain.	2 (9.1%)

Options 1 and 2 above are derived from the College of Charleston’s approved definition of undergraduate research—

any intellectual, inquiry-based project undertaken by the undergraduate student that advances the knowledge of the student in an academic discipline, immerses the student in the culture of the discipline, and leads to new scholarly insights or the creation of new works that add to the wealth of the discipline

as well as the meaning adopted by the Council on Undergraduate Research (CUR)—

an inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline.

CUR is a national organization of higher education institutions and individuals that focuses on providing undergraduate research opportunities for faculty and students at all institutions serving undergraduate students. The College of Charleston holds an enhanced institutional membership that grants a complimentary individual membership to any faculty, staff, or student who desires it.

Inconsistent expectations for faculty

Faculty were asked to describe their expected level of engagement in FMUR by selecting one from a list of options. Nearly forty-one percent (40.9%, n=9) of participants say they are *encouraged to mentor undergraduate researchers*. HEHP represents 77.8% (n=7) of these respondents compared to 22.2% (n=2) in TEDU. 36.4% (n=8) indicated that *it is not clear to me what, if anything, is expected*. Of the respondents who selected this option, 87.5% (n=7) represent TEDU while 12.5% (n=1) are housed in HEHP. 13.6% (n=3) of participants agree that *there is no expectation*, with all respondents representing TEDU. One respondent (HEHP) is *invited to mentor faculty who mentor undergraduate researchers*. One respondent (HEHP) selected *other* and explained that encourage

appears to be the best option, though there are no rules or policies to address disparities in faculty research load. No faculty members indicated they are *required to mentor undergraduate researchers*.

Faculty value the cognitive benefits to students

Faculty were asked to rank, in order of importance, the potential benefits to students who participate in faculty-mentored undergraduate research. Of the four potential benefits listed, *improvement of analytical and critical thinking skills* was seen as most important with an overall score of 3.29. It was ranked first or second most important in 85.7% of all selections. *Development of strong theory to practice connections* was seen as the second most important with an overall score of 2.42. It was ranked third most important 47.4% of the time. *Clarification of professional interests and goals* received an overall score of 2.33 and was ranked second most important 33.3% of the time. *Better preparation for graduate school or career* received an overall score of 1.84 and was ranked fourth most important 52.6% of the time. One participant skipped this item.

Academic credit and other student supports are needed

Participants were asked to select the essential student-focused supports for FMUR from a list of several. They were allowed to choose as many as they wanted. Two individuals skipped this item. 75% (n=15) of respondents selected *opportunity to earn academic credit* and 50% (n=10) chose *stipends for student researchers*. 45% (n=9), 35% (n=7), and 30% (n=6) of the participants selected *training on how to work with faculty research mentors, prerequisite or concurrent course work on research, and a more accommodating program curriculum*, respectively. One respondent marked *other* and commented that “essential is a strong word.”

Using the same list of student-focused supports, respondents were asked to identify useful supports. Again, they were able to choose as many as they wanted. An equal number (59.1%, n=13) selected *stipends for student researchers or opportunity to earn academic credit*. 54.6% (n=12) of participants selected *prerequisite or concurrent coursework on research*. Half of all respondents (n=11) opted for *training on how to work with faculty research mentors* and 31.8% (n=7) of participants selected *a more accommodating program curriculum*.

FMUR advances faculty research and teaching

Survey participants were asked to rank, in order of importance, the potential benefits to faculty who engage in faculty-mentored undergraduate research. *Exploration of new research directions* was seen as most important with an overall score of 3.00. It was ranked first in 40% of selections. Of the four potential benefits to faculty, *development of stronger teaching approaches* was seen as a close second most important with an overall score of 2.95. It was ranked second in 50% of selections. *Insight on ways to improve program curricula* received an overall score of 2.21. *Clarification of professional interests and/or goals* received an overall score of 2.17.

Faculty need funding, time, and credit

Faculty were asked to select the essential faculty-focused supports for FMUR from a list of several. They were able to choose as many as they desired. 81.8% (n=18) of participants selected *research funding* and 59.1% (n=13) chose *time in lieu of teaching or other responsibilities* as essential. 54.6% (n=12) selected *credit during the faculty evaluation process*. 40.9% (n=9) of participants chose *particular stipends for faculty mentors*. 31.8% (n=7) of participants selected *best practices for working with undergraduate researchers*. When given the same list and asked to identify useful supports, 59.1% (n=13) selected *stipends for faculty mentors*, 54.6% (n=12) selected *time in lieu of teaching or other responsibilities*, and 50.0% (n=11) selected *credit during the faculty evaluation*

process. 45.5% (n=10) chose *research funding* while 36.4% (n=8) selected *best practices for working with undergraduate researchers*.

FMUR is already occurring in EHHP, but with disparities across departments

Faculty were asked how many undergraduate researchers they have mentored within the last three years. They were given options, including none, 1-5, 6-10, 11+, and an opportunity to explain. 45.5% (n=10) indicated they have mentored 1-5 undergraduate researchers. These ten faculty members were equally divided between TEDU and HEHP. 36.4% (n=8) of respondents indicated they have not mentored undergraduate researchers. Of these eight, 87.5% (n=7) are from TEDU and 1.25% (n=1) is from HEHP. 18.2% (n=4, all HEHP) of respondents have mentored 11 or more undergraduate researchers. No respondents selected 6-10 or *it's complicated so I'll explain*. Of the 12 TEDU faculty who completed the survey, 58.3% (n=7) have not mentored undergraduate researchers and 41.7% (n=5) have. Of the 10 HEHP faculty who completed the survey, 90% (n=9) have mentored an undergraduate researcher and 10% (n=1) have not.

Faculty-led research projects are more prevalent

Faculty were asked to select the definition of FMUR that best describes the majority of their experiences. Only the 14 participants who indicated they have mentored at least one undergraduate researcher were invited to respond to this item and all 14 responded. 64.3% (n=9) describe the majority of their experiences as *an inquiry or investigation that is conducted by a faculty member being assisted by an undergraduate student and that makes an original intellectual or creative contribution*. Of these nine, 66.7% (n=6) are from HEHP and 33.3% (n=3) are from TEDU. 21.4% (n=3) describe the majority of their experiences as *an inquiry or investigation that is conducted by an undergraduate student being advised by a faculty member and that makes an original intellectual or creative contribution to the discipline*. Of these three, 66.7% (n=2) are from HEHP and 33.3% (n=1) is from TEDU. 14.3% (n=2) selected *other* and provided comments: *I don't know that the project contributed to the discipline* (HEHP) and *capstone projects for graduate students, bachelor's essays, and independent studies* (TEDU). No respondent selected *all of the above*.

FMUR exists within courses and independent studies

The 14 participants who stated they had mentored at least one undergraduate researcher were asked how many of their FMUR experiences were within the context of a course or independent study. All 14 responded, and 42.9% (n=6) said *some* of their FMUR experiences existed within the context of a course or independent study. Of these six, 83.3% (n=5) are in HEHP and 16.7% (n=1) are in TEDU. 35.7% (n=5) of respondents said *most* of their FMUR experiences existed within the context of a course or independent study. Of these five, 80% (n=4) are in HEHP and 20% (n=1) are in TEDU. One TEDU respondent said *all* of their FMUR experiences existed within the context of a course or independent study. No HEHP participants responded in this way. Two TEDU respondents said *none* of their FMUR experiences existed within the context of a course or independent study. No HEHP participants responded in this way.

Interest influences participation

The 14 faculty with FMUR experience were asked what influenced their decision to mentor an undergraduate researcher. They were given four choices and the option to select "other" and explain. Multiple selections were allowed. Of the 14 respondents, 92.9% (n=13) said *a student's interest and/or ability* influenced their decision to mentor an undergraduate researcher. 71.4% (n=10) were influenced by *my own interest and desire*. 21.4% (n=3) each said they were influenced by *research funding* or *an expectation from administration*. No respondents selected *other*.

Faculty have a mostly positive opinion of their own FMUR experiences

Ten of the 14 faculty who have mentored at least one undergraduate researcher responded to the open-ended item that asked them to describe their overall perception of their FMUR experiences. TEDU respondents expressed an overall favorable perception with seven positive, two neutral, and zero negative comments. HEHP respondents expressed a more balanced perception of their own FMUR experiences with seven positive, eight negative, and three neutral comments. In summary, of the 27 comments (each sentence or thought was counted as a separate comment), 51.9% (n=14) were positive, 29.6% (n=8) were negative, and 18.5% (n=5) were neutral.

Time and funding are barriers to participation

Only the eight respondents who said they have not mentored an undergraduate researcher within the last three years were invited to identify barriers to their participation. They were given thirteen choices and were able to select more than one. All eight faculty members responded. 62.5% (n=5) selected *I do not have time* and 50% (n=4) selected *I have limited or no funding to support undergraduate students*. 37.5% (n=3) each selected *nobody has asked me to participate* and *the students I teach are not equipped for research*. 25% (n=2) each selected *I am not actively engaged in research* and *other*. The comments that were written in are *students have no time in their program* and *students are on a professional track that does not necessarily include research*. 12.5% (n=1) each selected *I prefer to work alone or with professionals* or *I prefer to work with graduate students*. The one HEHP participant was one of three individuals who selected *nobody has asked me to participate*. All other responses were selected by TEDU participants

Faculty have mixed feelings about becoming involved

Of the eight faculty members who said they have not mentored an undergraduate researcher within the last three years, 50% (n=4) *welcome the opportunity to become more involved*. Of these four, three (75%) are in TEDU and one (25%) is in HEHP. 25% (n=2) *need to learn more before seriously considering getting involved*. 25% (n=2) offer very little support for becoming personally involved, with one selecting *kudos to faculty who are involved, however I am not interested* and another selecting *we are already asking too much of faculty*.

More discussion and awareness is needed

The eight participants who said they have not mentored an undergraduate researcher within the last three years were invited to describe their perception of the opportunities and resources to support FMUR. Seven responded, with three (43%) indicating a need for clarity or explicit discussion about this issue (2 TEDU, 1 HEHP). Specifically, the HEHP representative identified a need to be clear about the process and requirements for getting involved with FMUR. The faculty members in TEDU identified specific supports that are needed, such as being mentored on how to incorporate undergraduates within their current line of research and having a separate course on teacher research. Two faculty members (TEDU) described how the nature of the academic program(s) in which they teach limit students' participation in FMUR. One participant (TEDU) was not aware of any opportunities and resources within EHHP. One participant (TEDU) mentioned CPIE as a resource in EHHP.

CPIE is a logical office to promote FMUR

Six of the eight participants who said they have not mentored an undergraduate researcher within the last three years responded to this item. 66.7% (n=4) selected the *Center for Partnerships to Improve Education* as the EHHP office that is likely best suited to promote FMUR. 16.7% (n=1) each selected *Dean's Office* or *each department*. No respondents selected a *yet-to-be-developed office*.

Implications

The results of the survey suggest that faculty-mentored undergraduate research within the School of Education, Health, and Human Performance could benefit from efforts to coordinate, support, and better document its progress. First among these efforts should be increasing familiarity with the campus definition of undergraduate research and discussing expectations for faculty that reflect College-wide goals and tactics. These expectations should be tempered by departmental nuances, such as faculty load and students' programs of study, as well as other factors. To support EHHP engagement in FMUR, an individual or office should be designated to direct interested faculty and students to the appropriate campus resources, coordinate supports such as relevant trainings, and contribute to the College's assessment of research by collecting data at the school level. It is clear that EHHP faculty have a history of collaborating with students on research projects. Demand for this type of high impact learning experience will likely grow, given the exponential increase in student enrollments in HEHP as well as accreditation pathways in both TEDU and HEHP. To manage this demand, it will be important for EHHP to consider options to systematize the implementation and evaluation of FMUR processes and outcomes to ensure high quality experiences for both faculty and students.