

# Evaluating academic research opportunities for undergraduate students at LSE

Cármen Pegas & Prisha Satwani

*If this project has informed your practice, let us know at [lse.changemakers@lse.ac.uk](mailto:lse.changemakers@lse.ac.uk)*

## Introduction

According to studies, undergraduate research opportunities (UROs) are beneficial to students in both academic and professional growth (Petrella and Jung, 2008; Yaffee et al., 2004). In terms of long-term development, it helps students clarify career paths and support their pursuit of graduate studies. It also fosters important transferable skills, such as critical thinking, literature review and data analysis (Yaffe et al., 2014; Petrella and Jung, 2008). These research practices require analytical skills as well as commitment, which creates and strengthens psychological benefits, such as self-confidence, intellectual curiosity, and sense of community within the university (Yaffe et al., 2014; Trott et al., 2020).

Albeit their benefits, it is important to note that high quality UROs involves planning and careful implementation and therefore requires a significant investment of time and resources, as well as cooperation between faculty members, administrative staff and students.

Building on the literature and considering the LSE's grounding in academic research, our primary question is: how can LSE support departments in providing students with better research opportunities? We aim to assess students' and professors' perspectives on UROs at the LSE, and how they can be enhanced for a better student experience. We investigated student demand for UROs, satisfaction with current opportunities and what they value most about such experiences. We also considered the main impediments and benefits to professors providing these opportunities.

## Methodology

We chose to study four departments as paradigmatic cases. Due to the different nature of quantitative and qualitative research, we chose two departments that fit into each category for a well-rounded assessment. Therefore, we selected the Mathematics and Statistics departments due to their predominant focus on quantitative research. For the second category, we contacted all the departments that had previously posted opportunities on the Eden Center Internship website and selected the two departments with the most detailed data on past UROs - International Relations and Government.

Firstly, we collected URO data from each department outlining the number of past opportunities, number of applicants, type of work conducted by interns and monetary compensation. Secondly, we utilized a Google forms survey completed by 40 students of each of the four

departments. The response rate of 40 out of almost all of the undergraduates in the four departments reflects important aspects of the research design. First, because of limited time, the data collection phase was set for 3 weeks. Therefore, there were constraints in reaching all potential participants. However, responses from participants still provide qualitative insights regarding UROs. Second, it is interesting to find that the distribution of the forty responses varies across departments, which reflects different departmental practices regarding UROs. The survey helped us identify student interest in UROs, satisfaction with current opportunities, past research experience, and motivations and deterrents from engaging in research. Lastly, we interviewed a professor from each department to understand their experience with undergraduate research assistants, benefits and hindrances to offering these opportunities and how they believe the school can better support their department in hosting these opportunities.

We considered both the perspectives of the students and professors to create an integrated solution that benefits the entire academic body.

## **Findings**

### **Demand and satisfaction**

According to the analysis of the data, our main finding is that there is currently a big gap between student demand for UROs and their supply by departments. Out of the three departments studied, the department of Mathematics was the only one that did not offer any UROs. Even for the three departments that did offer UROs, the acceptance rates were low; less than 20% for the Departments of Statistics and International Relations (the department of Government did not have this data available).

Student survey responses confirmed this finding, as 90% of students interested in academic research were unsatisfied with the number of opportunities offered, and cited opportunities being “too competitive” as the main preventing factor from gaining experience in the area.

Additionally, students who confirmed they were not interested in UROs in the survey answered “don’t know much about academic research” as the main factor for their lack of interest. Therefore, as students learn more about academic research, this already high demand might further increase.

The following two graphs show the proportion of our survey respondents that are interested in research (left) versus the proportion that have carried out research (right).

### **Differences between qualitative and quantitative departments**

There is a stark difference in opportunities offered by the qualitative departments (Government and International Relations) and the quantitative departments (Mathematics and Statistics). In the 2021/2022 academic year, the Departments of Government and International Relations both offered 14 opportunities, while the Departments of Statistics offered 2 and Mathematics none. Student surveys were in accordance with this data, as no student in the quantitative departments reported having participated in UROs at LSE.

According to the professors in the quantitative departments, the main preventing factors from offering UROs are knowledge barriers.

So, we noted that when the quantitative departments did offer opportunities in the past, these were purposely created to give students researchers experience while being guided by an academic, whereas in qualitative departments the interns contributed to an already existing project being led by an academic (for example by collecting data). This was attributed to the knowledge barrier students face when wanting to engage with academic research in Mathematics or Statistics.

Professors from quantitative departments especially noted that it is a big time commitment for them to supervise a student on a research project. Often their supervision time is voluntary (as is the case with the current opportunities offered by the Statistics Department), and they are not monetarily compensated or formally recognized for this work. This issue was not as highlighted by professors in qualitative departments, as they mentioned that the benefits from getting data work from interns outweigh the time costs associated with supervising them.

### **Student Preferences**

All UROs we collected data on were paid opportunities. However, being financially compensated for their time was not a priority for most survey respondents - carrying out intellectually stimulating research and carrying out research with a renowned professor/organization were both more important.

The survey respondents were evenly split in preference between carrying out UROs during term time or during holidays, so professors have flexibility when choosing the timing for these opportunities.

The following graph shows the relative importance of three factors when assessing whether to carry out a research opportunity, as given by the responses from the students that completed our survey.

### **Impediments for departments**

Some professors noted that an impediment to offering more opportunities is the administrative effort required to organize them. This issue is exacerbated by them not being formally recognized for their time and effort as supervisors for undergraduates. However, lack of funding was not cited as an impediment to offer UROs, with professors mentioning they get financing from the Eden Center to carry out these projects.

### **Professors' views**

The professor in the Mathematics Department noted that having research modules in the curriculum (the dissertation course, for example) has been valuable to students to carry out research independently while being supervised by an academic. This can be a teaching experience for the academic, and the student can carry out research without being constrained by lack of knowledge needed in professors' own projects.

Professors also mentioned students who participated in these programs had better opportunities to pursue further studies (and got recommendation letters for these programs on completion of UROs).

In addition to formal schemes currently in place, there could be more informal opportunities as the professor in the Department of Government noted that sometimes researchers could use assistance outside the time periods formal UROs are carried out, usually over the summer.

Finally, many opportunities are not available to joint degree students who are housed in a different department.

## **Recommendations**

The key issue we recognize is the scarcity in research opportunities available and through the following recommendations, we hope to address this demand-supply gap by increasing the number of research opportunities while creating more meaningful and impactful opportunities to those that seek them. We highlight the rationale, supported by our finding in the previous section, behind each of our proposed recommendations.

Proposal: The LSE could set up a fund for student-led projects that are supervised by professors. For example, this could be facilitated through collaboration between its multiple research centers. This ensures that professors are financially compensated for their efforts in supervising students and aids in reducing the knowledge barriers for students in qualitative departments who otherwise don't get research exposure (this would be similar to the UROP scheme offered by many other universities around the UK).

Rationale: This addresses the issue that professors are not compensated (monetarily or otherwise) for their work as supervisors. This decreases incentives to offer more opportunities, especially more intellectually stimulating tasks for students.

Proposal: Professors should be able to directly contact a centralized entity at the LSE when they want to publish an opportunity. It could be housed under the LSE Research Support, one of the branches of LSE Research and Innovation. This body could streamline this administrative process by creating a centralized database which lists all available opportunities from all departments on their Undergraduate Research Portal.

Rationale: The proposal will reduce the administrative effort of publishing opportunities and reaching interested students, which is currently very high for professors.

Proposal: Circulate an application at the start of the year to create a pool of students that are interested in research that professors can choose from at any given time. This aligns with our findings from survey responses that students are not partial to term-time or research during vacations. As these opportunities are more informal in nature and our findings suggest that being paid is not a priority for students wanting to engage in research, some of these opportunities can also be offered on a voluntary basis.

Rationale: Providing formal opportunities requires more time and resources (because of applying for funding, for example) and are not as flexible as they need to be carried out at specific times such as at the start of the term or during holidays. This proposal addresses such limitations of more formal research opportunities.

Proposal: When carrying out Departmental Reviews, the Academic Planning and Resources Committee (APRC) should consider the question “how are departments supporting joint degree students housed under a different department?”. This will encourage interdepartmental collaboration and support joint degree students who inherently have multiple academic interests.

Rationale: This proposal is in line with LSE's goal of increasing interdisciplinary research by incentivizing departments to provide opportunities to joint degree students who belong in other departments.

Proposal: Inculcate more opportunities to do research in the academic curriculum to aid career decisions and future academic progression. As an example, the dissertation module offered by the mathematics department should be offered to second years before the possibility of master's applications. Moreover, the Statistics department should introduce a research module so that students that are interested can get formal exposure to statistical research.

Rationale: This proposal will reduce the knowledge gap that has been mentioned by professors from more quantitative departments as the most significant barrier to undergraduate research. It also addresses the main reason why students do not want to engage in research; they do not know enough about what it entails.

## References

- Carlie D. Trott, Laura B. Sample McMeeking, Cheryl L. Bowker & Kathryn J. Boyd (2020). Exploring the long-term academic and career impacts of undergraduate research in geoscience: A case study, *Journal of Geoscience Education*, 68:1, 65-79, DOI: 10.1080/10899995.2019.1591146
- Petrella JK, Jung AP. Undergraduate Research: Importance, Benefits, and Challenges. *Int J Exerc Sci*. 2008 Jul 15;1(3):91-95. PMID: 27182299; PMCID: PMC4739295.
- Yaffe, K., Bender, C., & Sechrest, L. (2014). How Does Undergraduate Research Experience Impact Career Trajectories and Level of Career Satisfaction: A Comparative Survey. *Journal of College Science Teaching*, 44(1), 25–33. <http://www.jstor.org/stable/43631774>