1.6 Transcending disciplinary boundaries in student research activities

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1. Key themes from the R=T Masterclass

I have identified two broad issues and challenges, which audience members stated hinder the fostering of relationships between departments. Rapport-building is an essential starting point for honest and nuanced conversations that could lead to joint research efforts.

The first challenge is overcoming the problem that arises when students specialise too early. The issue here is that students might not have the depth of knowledge required to engage in conversations with people from difficult fields. Also, if someone is from an insular field, they might not be particularly open to accepting new perspectives or helping a student from outside their field understand the complexities and intricacies of their own research area.

The second challenge is that if universities take a top-down or central approach to this task, they risk undermining any work that has been done building contacts and relationships. Conflicts arise when administrators attempt to bring departments or research teams together for projects, while ignoring the bonds that have already been painstakingly formed between teams in different departments. Universities should therefore approach this task both cautiously and transparently.

In the Masterclass there were also questions about what specifically constitutes a student research activity. Bob Eaglestone stated that in his two disciplines (English and History), a simple discussion of a book in a seminar environment is a research activity. In engineering and sciences,
however, research activities are longer, more involved processes that usually involve the development of mathematical models and require the execution of several experiments. It might therefore be more difficult to initiate interdisciplinary projects in these disciplines.

2. Focus group findings

I identified broader, more general issues and challenges during the Masterclass conversation. However, I still needed to gather information on subject-specific issues regarding cross-disciplinary student research to gain a better understanding of how to remedy the problem. I opened the conversation by asking the students if they had any experience undertaking interdisciplinary projects during their time at university. Only one student had experience of collaborating with people from a different subject area, and this was a fairly recent experience, which he had acquired since arriving at UCL. Some participants expressed concerns that they were often not aware of activities in other departments, or even of the existence of other departments, which makes it harder for them to bridge the divide between their discipline and others.

3. Connecting the challenges to the theme of the R=T Masterclass

The issue of transparency is linked to democratising research and teaching, something Bob Eaglestone touched upon when he introduced the audience at the Masterclass to the work of Paulo Freire (1970). Freire was a proponent of democratising the education process through rethinking the dynamics of the teacher–student relationship and viewing education as an exchange. A substantial number of the problems highlighted in both the Masterclass and the focus group are also linked to a lack of communication. Poor communication can be a hindrance.

4. Focus group recommendations

The focus group participants provided recommendations for the direction in which universities should steer in order to encourage students from
different academic backgrounds to pursue research projects together. The focus group’s suggestions can be summarised as follows:

1. organise small projects and events;
2. create student-led initiatives;
3. find a case study from within the university.

It is important to approach the task of interdisciplinary student research activities in bite-sized chunks, rather than bigger projects. One way of doing this is perhaps by expanding the UCL’s series of Lunch Hour Lectures, and encouraging student researchers to give some of the lectures. Hour-long lectures are much more accessible than longer lectures.

Educators should focus on a bottom-up rather than a top-down approach to ensure that ownership of the research/ideas stays with the originators and that the projects remain people-focused. This will encourage researchers to get involved and may improve the chances of the projects running to completion (retention). Also, taking a decentralised approach means that the burden of expectation for researchers is lifted. There is less pressure on them to ‘tick boxes’, and they are less likely to be reluctant to join a project for fear of the venture not being successful.

It is crucial to examine cases where interdisciplinary collaboration at the university has already garnered astonishing results and is flourishing. The example brought up in the focus group was the UCL Institute of Biomedical Engineering (IBME), where researchers from Mechanical Engineering, Computer Science, Medical Sciences, Electrical Engineering, Chemistry, Biochemical Engineering, among other departments, are working together to develop medical technologies to improve the quality of healthcare provided by clinicians.

5. Personal recommendations

I have two recommendations for how universities should go about encouraging interdisciplinary student research. These are:

1. early-years research projects;
2. expanding the possibilities for final-year bachelors and taught Masters projects.

Universities must encourage first- and second-year undergraduate students – not just final-year undergraduates and taught Masters students – to
take an interest in the research that is being undertaken in their departments. There should be a particular focus on interdisciplinary research activity. One method for achieving this is through the home department hosting research presentations by educators from other departments in the university. In my opinion, only introducing students to postgraduate research opportunities in their penultimate or final year is far too late; by this time a significant proportion of the class have already begun to make decisions. This leads to the brightest and most capable students being lost along the academic pipeline from undergraduate to postgraduate studies.

Furthermore, departments should provide a broader range of final-year project options, including cross-disciplinary suggestions from external departments. Currently, students from my home department (Computer Science) must seek out interdisciplinary dissertation options themselves, as only departmental supervisors’ suggestions are listed on their website.

6. Conclusion

After reviewing the challenges and issues presented to me by staff and students at the university, I firmly believe that the most pertinent issue for universities to tackle is sensitivity when broaching the topic of inter-departmental collaboration. It seems that a ‘bottom-up’ approach could be more beneficial than a ‘top-down’ one. The most pressing subject-specific issue is definitely ensuring that connections and relationships are formed between different departments, faculties and schools, especially those schools that are newer to the university.

Of the recommendations that were suggested to me, I would advise that the university pursue three of them as part of a trial:

1. an extension of the Lunch Hour Lecture series;
2. support for early-years student researchers;
3. offering a wider range of final-year projects (not restricted to students’ home departments).

As the infrastructure already exists to support the Lunch Hour Lecture series, it would not be as costly, in terms of expenditure or the institution’s reputation, to extend it. With regards to my second and third recommendations, as they would both be department-led I think they would be more impactful, as departments would have full control in specifying
exactly how they wished to carry out these projects. Regarding final-year project selection, I think that a UCL online communication platform, where students could discuss ideas with potential supervisors from other departments, would be a great solution.

Taken as a whole, the question of transcending disciplinary boundaries in student research activities is an important one. Bridging this gap doesn’t just offer academic success for the institution and its constituent departments; it will also bring academic rewards and a sense of personal success to students.

References