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TITLE: Integrate student research projects teaching into staff research

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AUTHORS (FIRST NAME, LAST NAME): Lijun Shang¹

INSTITUTIONS (ALL):

1. School of Medical Sciences, University of Bradford, Bradford, United Kingdom.

ABSTRACT BODY:

Abstract Body : University lecturers are required to undertake teaching and also to produce high quality papers for REF. This can be a very hard situation, especially for early career researchers. They always face the diplomas of no starting-up funding and no man power to start a new research area. This could be very challenging. Apart from constantly pursuing funding and establishing collaboration, I integrated student research projects teaching into my own research. I summarise main points which help me to achieve. 1) *Designing a multidisciplinary project.* Research informed teaching is the key to success. Based on my own research plan, I designed interdisciplinary project to attract students with particular attention to decompose comprehensive research proposal into small parts which is achievable within students' ability and time scale. For example, in the past two years I designed a series projects for final year undergraduates and MSc students based on my own projects of "interaction of nanoparticle with cell membrane". Within these projects, students will have chance to expose themselves to research. For example, students will be able to explore new research area of nanotechnology, especially on nanoparticles; basic biological lab skills like cell culture, treating cells with toxins; and physiological implication of nanoparticles interacting with human body etc. These greatly inspire students thinking. At the meantime, giving student freedom and full supervision allow them to be successful. Through carefully supervision I am confident that I could get preliminary data from students' experiments for my grant application. 2) *Integrating resources to exert full.* I deliberately arranged students at different levels to join in my own project at different stages. For example, final year undergraduate projects starts from Oct every year and last till March, then MSc project starts from Feb every year and last till August. I also apply for small funds to have summer students from July to Sept. Therefore I can always have students doing some experiment in the lab. The budgets from student projects are really good boost and supplementary for my own project. There is also a consistency in the projects to avoid waste and unnecessary repeat. I included students in materials, equipment preparation and explained key updated skills to increase students' passion and to inform them of how to start a new topic from scratch. 3) *Setting high standard to achieve.* I continuously encourage students to achieve. It would be great to have someone who can work through whole period of your new research proposal. I particularly encourage students to design experiments, to deliver ideas, to write scientific reports for conference, and even to draft paper for submission. This would not only help students for their future career but also help myself to quickly build up my own research. It is hard process but worth.

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