

The links between research and teaching in Biosciences at SHU from a students and staff perspective

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Overview

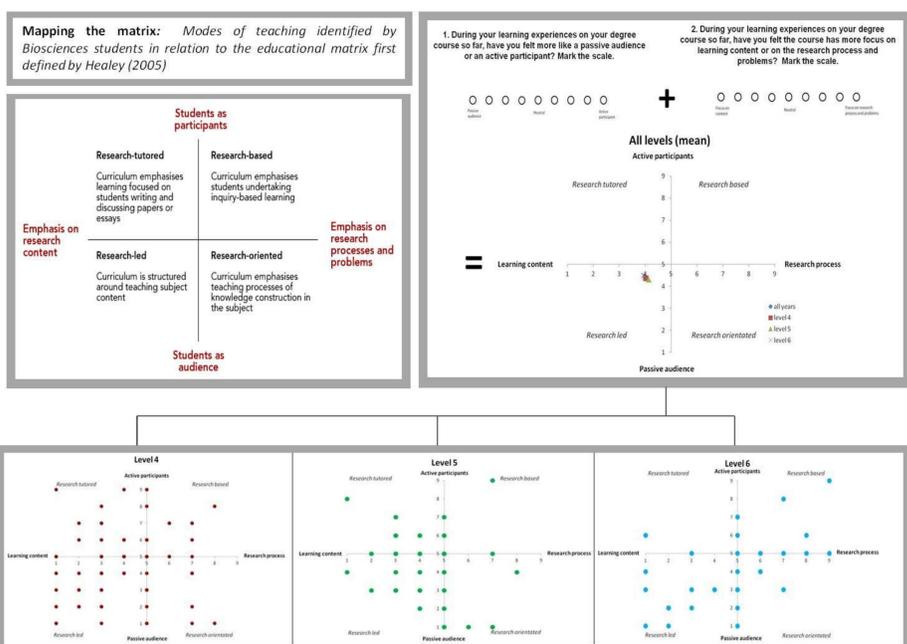
The link between research and teaching in higher education institutions has attracted significant international attention from both policy makers and academics (Healey *et al.*, 2010). The debate has focussed around the perceived benefits or barriers created by closely linking research to teaching in universities with both arguments in favour of strengthening the link (Research Forum UK, 2004) and separating research from teaching (Australian Government, 2008 and DfES 2003). The Department of Biosciences within the Faculty of Health and Wellbeing at SHU has close links between teaching and research with all academic staff who engage in research within the Biomedical Research Centre (BMRC) also actively involved in teaching and in course design and delivery. It is a generally held belief within the department that an active research environment enriches students' learning. To evidence this, we are carrying out a study to identify the ways in which research affects teaching within the department and to measure the perceptions of students at levels 4, 5 and 6 and academic staff members.

Our aim is to evidence the potential benefits of research to HE learning and teaching to keep courses lively and up-to-date, to make research more relevant and interesting to students and provide cutting-edge laboratory training, to develop their career-related skills and to contribute to HE pedagogic research. We display initial selected data below from student and staff questionnaires, focus groups and interviews which will ultimately form a faculty report to help inform best practice.

'If it was up to me, I would have more research, particularly if they targeted it around what the lecturers research' Level 6 student

'As a student I did feel the most interesting lectures were when people came in and gave their specialist subject area' placement student

Current findings

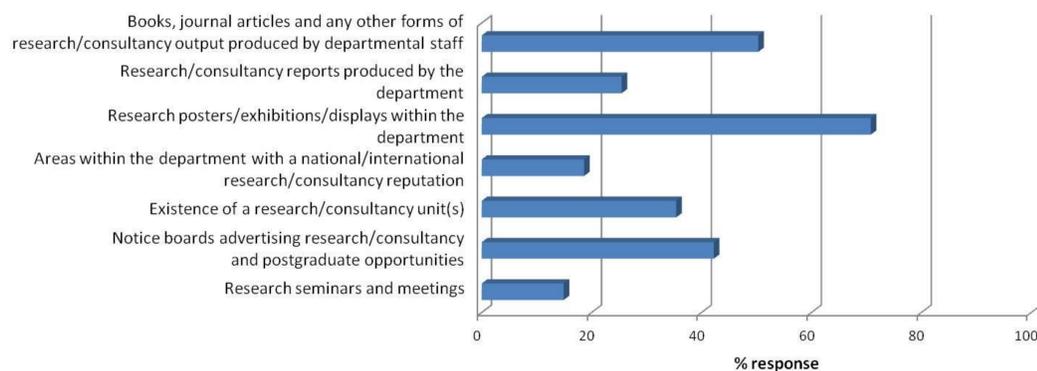


Likert Scales were used to create a matrix which measure the modes of teaching in the biosciences department. The average results point to a research led teaching mode, although all modes were identified to some extent. When asked to identify recognised teaching modes directly by choosing from a selection of written descriptions (Griffiths, 2004), Research-led was most frequently identified (61%), followed by Research-orientated (43%), Research-informed (23%), Research-tutored (18%), Research-based (11%) and none (4%).

Staff ($n=13$) were most likely to recognise Research-informed (85%), Research based (46%) Research-led (39%), Research-orientated (39%), Research-tutored (30%) and none (0%) When staff results were plotted onto the matrix, the mean fell slightly into the Research-tutored quarter.

Are you aware of any of the following occurring within the Biosciences department during your time on your degree course? Tick all that apply.

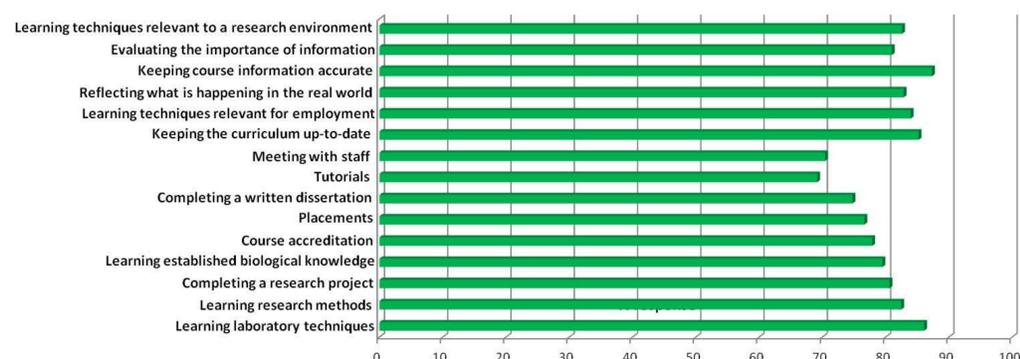
Mean % response levels 4, 5 and 6 ($n = 161$)



SHU Bioscience students are most likely to be aware of exhibitions and displays in the department, books and journal articles written by staff members and notice boards advertising postgraduate research opportunities. Students seem less aware of other research-related activities such as research seminars and meetings or the research reputations of staff members. The responses for all categories was highest at level 6 (e.g. the % response for level 4 in response to seeing research posters and exhibitions was 39%, at level 5, 16% and at level 6, 79%). When the questionnaire was carried out, level 6 students were undertaking their final year research project and work closely with staff and postgraduates in the Biomedical Research Centre.

How important to you is the research/consultancy carried out by those who teach you in relation to the following:

Mean % response levels 4, 5 and 6 ($n = 161$)



The percentage responses were high for all categories with students perceiving research being particularly important in relation to keeping course information accurate, learning laboratory techniques and evaluating the importance of information or data. Students were less likely to see the relevance of research with regards to meeting staff and their tutorial sessions. Generally, students at higher levels of study were more likely to give higher percentage responses for each category compared to students at lower levels.

'I've got this long term goal that I want to be in a university research environment' placement student

'A lot of cutting edge discoveries in science happen in university labs' placement student

Conclusions

Students at levels 4,5 and 6 in biosciences at SHU are most likely to identify their course teaching style as Research-led while staff perceive a more research informed approach to course design and delivery. Although a proportion of students are not aware of the full extent of research activities carried out in the department, the vast majority of students generally perceive research as important to their learning. As the study continues, we will continue to identify ways in which all students can access our research within the BMRC to enhance their learning experience and develop their skills for employability as early as possible in their course and further highlight the potential benefits of active research within HE.

References: Australian Government (2008) *Review of Australian Higher Education Discussion Paper June 2008*. DfES (Department for Education and Skills) (2003) *The Future For Higher Education*. Griffiths, R. (2004) Knowledge production and the research-teaching nexus: the case of built environment Disciplines, *Studies in Higher Education*. Healey *et al.*, (2010) The research-teaching nexus: a case study of students' awareness, experiences and perceptions of research. *Innovations in Education and Teaching International*, 47,2, 235-246. Research Forum (2004) *Forum's advice to Ministers on Teaching and Research*.