Suitably Skilled? Matching Bioscience Graduate Skills and Employers Expectations

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Introduction

Gaining employment after graduation is at the forefront of every student's mind during their degree, especially students undertaking a degree in the Biosciences.

With the majority of candidates meeting or exceeding the minimum academic requirements; graduate recruiters now often short-list candidates for a role on the basis of their employability skills rather than academic qualifications alone. Yorke's interpretation of employability is *"a set of achievements — skills, understandings and personal attributes — that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy."* [1]

Aims

- To identify any disparities which may currently exist between the skill sets possessed by Newcastle University Bioscience graduates and the skill sets desired by Bioscience employers.
- To implement, where necessary, changes to the current degree programme curricula offered by the School of Biomedical Sciences (SBMS), in an effort to improve the employability prospects of graduates.
- To establish a database mapping skill sets developed during each degree programme to the Newcastle Graduate Skills Framework, to serve as a platform for continuous self-evaluation and reflection by undergraduate Bioscience students.

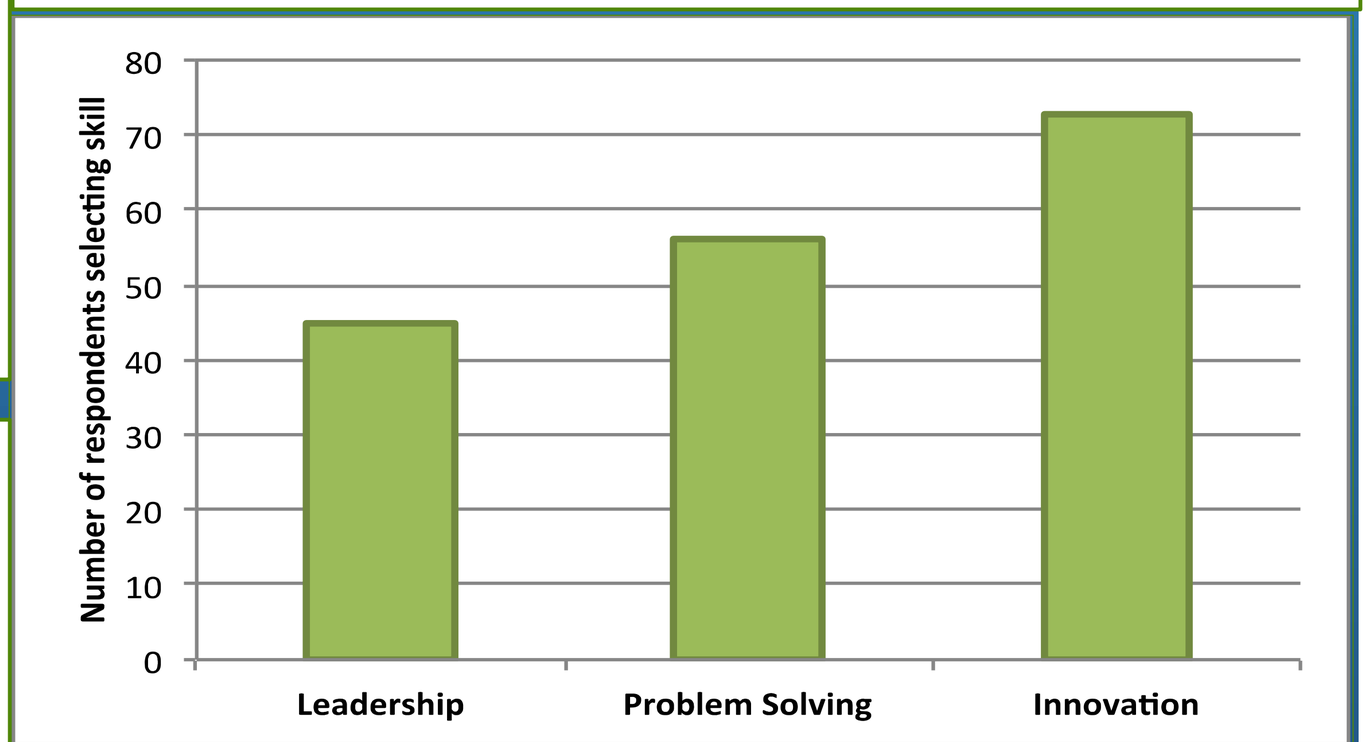
Methods

- Data collection was carried out using 2 distinct yet comparable questionnaires, designed using the Bristol Online Survey (BOS) platform.
- The first, targeted at current students and recent graduates (2010-2013), asked participants to rank a set of chosen skills from 1-3 (where 1 was of most importance).
- Skills were selected from the Newcastle Graduate Skills Framework. The second questionnaire, targeted at Bioscience employers and/or selectors for postgraduate study, included the same category of skills but also featured an additional section of laboratory competencies [2].
- An employer forum was held in SBMS of the 6th of August 2014.
- This was carried out as an informal discussion to highlight weaker areas of student employability.
- University academics and representatives from various Biotechnology and Pharmaceutical companies were present. A member of the PGCE admissions team at Newcastle university as well as a TeachFirst representative were also present.

Results

- 89 current students and 52 graduates completed the student questionnaire, giving a response rate of 7.1% (low response rate attributed to the timing of the study i.e. summer vacation).
- 27 employers/selectors completed the employer questionnaire, giving a response rate of 54%.
- The top three skills which both students and graduates selected as skills they wish had been more extensively developed during their degree were: Leadership (45), Problem-Solving (56) and Innovation (73) (figure 1) (n=141) (**figure 1**).
- The top three skills which Bioscience graduates do not fulfil, as selected by employers are: Problem-Solving (4), Awareness of employment sector (6) and None (11) (n=27).

Figure 1: bar chart depicting the top three skills as selected by students and graduates which should be more extensively developed.
Figure 2: Wordle representation of employer comments regarding essential Bioscience graduate skills.



Discussion

A clear trend among the student and graduate results was the desire for innovation to be more extensively developed during their degree. Innovation itself is not clearly defined by these results hence it has been decided to hold student focus groups in the near future to discuss what students would define innovation as and how it can be implemented into the curriculum.
The employer forum held was very successful in improving links between SBMS and Bioscience employers; with new careers sessions for undergraduate students being developed, focusing on what skills students need to be developing from stage 1(**figure 2**).
Finally, we hope to develop an online searchable database which maps key skills to specific activities, for students to use a resource for reflection and self-evaluation.

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