Understanding the Student Experience in One-Year Graduate Masters Programmes

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SUMMARY

We present initial findings from a study investigating PGT student experience, aspirations, and perceptions of general skills required to undertake engineering research as part of their degree programme. A survey and focus groups were used to obtain data from two consecutive student cohorts across a Russell group engineering faculty.

The study found that students are less content with their communication skills than their discipline-specific research skills. They are pleased with their research supervisors, but do not feel part of a larger research community. Nor do they feel part of a larger university-centred student community.

We are extending this initial work through further surveys, focus groups and one-to-one interviews with students and their research supervisors to find ways to build a learning community within cohorts.

BACKGROUND / CONTEXT

Much of the literature in the field of Engineering Higher Education focusses on undergraduate education and student experience, yet within the UK, in 2014 / 15, 19% of students were studying on postgraduate taught (PGT) programmes (HESA, 2016). Moreover, in terms of engineering education, UK PGT and undergraduate populations differ demographically (EngineeringUK, 2017). PGT engineering students are more likely to be female and from overseas. We hypothesise that research based on undergraduates may not be directly applicable to PGT, whose needs, aspirations and motivations for study are different.

AIM AND OBJECTIVES

The preliminary study aimed to investigate the experience of PGT Engineering students, mostly following one-year full-time programmes, at a large Russell Group university. The institution aims to embed research-based teaching across its curricula, enabling students to feel part of a supportive scholarly community (Fung, 2017). This work considers students' perceptions of the support they feel they require and receive

in areas outside of the core taught material in their programmes – research skills and project support, and pastoral and social support.

RATIONALE

This study has provided a baseline set of data that gives a view of the current status of student support and students' aspirations for their education. It is a first step in a process to evaluate PGT education within a single institution. Nevertheless the conclusions and recommendations are applicable to institutions with a similar demographic of PGT students.

The work has focussed on elements common across the university's engineering disciplines – research projects and skills, and generic student support.

METHODOLOGICAL APPROACH

An online survey seeking both qualitative and quantitative responses was sent to over 1300 graduating (2015/16 cohort) PGT students from the Faculty of Engineering Sciences in September 2016. The survey contained questions about the students' research project loosely based around those in PTES, with additional questions to assess whether students felt part of a research community and also which research skills the students would have liked more support to develop.

The survey was followed by three student-led focus group sessions in March 2017. The 25 focus group attendees were taken from the 2016/17 cohort. A group of four PGT students were trained in running focus groups and they then carried these out without a staff member present to reassure those taking part that their responses would remain anonymous. The focus groups were 44% female, 56% male; 20% UK, 20% EU and 60% overseas.

KEY EMERGENT FINDINGS

This work in progress is part of a study tracking PGT student expectations, aspirations, and perceptions of support over multiple years. These initial findings are our first data and show:

- 82% agree or strongly agree that 'My supervisor has the skills and subject knowledge to adequately support my dissertation/project'
- 74% that 'My supervisor provided helpful feedback on my progress'
- 40% that 'I was given the opportunity to discuss or present my work to my peers and others in the department'
- 43% that 'I felt part of a research community during my project/dissertation'.

The students feel that they need particular support in academic writing and preparing their final report, data analysis, and project management.

Themes from the focus groups were:

i   Students would like more support with presentation skills;
ii Many students are studying to improve their employment opportunities, and they are very conscious of this throughout their studies;
iii They would like the opportunity to become part of a community through networking opportunities and student societies that will lead to them considering the university as their 'alma mater';
iv Their expectations of facilities prior to arrival were not fully met when they embarked on their programmes of study.

DISCUSSION

The initial results from the survey indicate that although the students carry out a significant research project and feel supported by their supervisors in doing so, they do not feel part of a larger research community. They may be operating in a research relationship more closely akin to that of a sole student learning at the feet of a master and thus missing the benefits of being part of a learning community (Zhao & Kuh, 2004). The survey also highlights that the students, although feeling supported in their discipline specific research, feel that they could be more supported in translational skills such as presentation and academic writing. These skills will apply across all engineering education and are becoming increasingly necessary for the future employment of our graduates (Perkins, 2013).

The concept of community arose again in the focus groups, with the emphasis on the students wanting to be part of an alma mater network. The intense but short nature of Masters programmes could be the driving reason for this and we suggest that a sense of community could be built by improving communication throughout the entire student lifecycle from pre-application to post-graduation.

CONCLUSIONS & RECOMMENDATIONS

This initial study has shown that PGT Engineering students in a Russell group institution would like more support in general skills associated with engineering research, and also do not feel part of a research community despite one third of their programme being a significant research project.

We will continue this study with surveys to track cohorts supplemented by focus groups and one-to-one interviews with students and their research project supervisors to investigate their confidence and ability in generic research skills and their personal learning gain throughout the experience.

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