Undergraduate research assistantship as a means of integrating research and teaching: A participatory institutional case study (0070)

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Institutional background

As part of an institutional policy stimulating co-creation and co-production between staff and students, the Undergraduate Research Assistantship Programme (URAP) has been running at [University's name] since 2013. A co-curricular scheme that furnishes academics with the financial means to hire research assistants who work on the academics' research projects, it aims to provide an enhanced student experience, to encourage progression to postgraduate study and to support academics with their research.

Co-creation/production of outputs between academics and students is one of the criteria for determining which URAP positions are funded, for URAP dovetails with [University]'s key performance indicator of academic strength, expressed in the quality of published outputs and the number of student/staff co-authored publications. The scheme further feeds into an institutional strategy of promoting student research, including [University]'s annual Showcasing Undergraduate Research Excellence conference, and [University] hosting the British Conference of Undergraduate Research in 2017.

Research framework

Schemes that use a 'students as researchers' pedagogy, where undergraduate students are involved in co-curricular research-intensive projects, are increasing in the UK (Walkington, 2015) and internationally (Healy, 2014). The learning gains of undergraduate research schemes have been hitherto documented with exploratory studies from a researcher-led perspective and with a variety of concerns, from changes in attitudes towards science to acquisition of communication skills and employability enhancement (Hunter, Laursen & Seymour, 2007; Seymour et al, 2004; Shah, Rahim & Yin, 2012).

[University]'s URAP is an apposite case study given its arrangements of paid research placements, which position the scheme as both research-based and work-based learning. The present evaluation of the programme contributes to the burgeoning literature on students-as-researchers through its employment of a dialogical participatory research design whereby students actively self-monitor their evolving learning when working on a research project.

The research had a twofold aim:

1. To examine the learning gains of students enrolled in [University]'s URAP through a participatory monitoring and evaluation process.

2. To determine, in co-production with students, their main motivations and expectations to take part in URAP; to compare and contrast these with their experiences along the programme and institutional objectives.

Methods

The research was qualitative and participatory, and triangulated data from participatory group work (planning and communicative validation sessions), solicited reflective diaries and in-depth individual interviews.

Data were analysed progressively by using interpretative phenomenological analysis, focused on the research experience, aided by the software MAXQDA. A communicative validation process was conducted to co-shape findings with students in a time-efficient manner.

Results

Twenty-seven participants took part in the research, mainly in the form of planning sessions before their URAP job started. Participants were recruited from the spring (working part time, 75 to 100 hours) and summer cohort (working full-time, 225 hours) of the URAP 2015/16. This paper presents findings from sixteen participants who completed diary entries during their placements and/or took part in individual interviews after their projects had finished. Preliminary results were grouped in three emerging themes:

- *The overall value of the URAP.* According to student researchers' views, the scheme is v*aluable* for enhancing their student experience on a number of grounds. First, it offers the opportunity of obtaining work experience with a competitive salary, which seems to enhance accountability, while being part of an academic environment. Second, it exposes participants to a real-life work situation, including application, interview and selection of research candidates, as well as time keeping. Third, participants experience first-hand the complexities of a research project and, to different degrees, the specific tasks involved in different research phases, from ethical clearance to report writing.

- *Student researchers' experiences vis-à-vis their own expectations*. Participants set their own learning goals at the beginning of each cohort, in collaboration with the researcher. They identified applied research, analytical and "software" skills as their learning targets, alongside networking and personal development, industry related knowledge and time-management.

  Participants reported extensive engagement with research execution, in terms of desk literature reviews, planning and production of research instruments, recruitment of participants and primary data collection:

  > *I learnt how to successfully collect various forms of offline data in order to provide some background data for a study. I have also learnt that the collection process is not a scary as first thought, and confidence and professionalism is key to the collection of good data and a happy participant* (Female, diary entry 5)

  Time management and the development of organisational skills were also reported in the data. All other identified goals were reported as part of participants URAP experience depending the project topic and complexity, as data analysis might be left to more senior members of the research team.

- *Student researchers' experiences vis-à-vis institutional goals*. The institutional goal of supporting academics with their research seems to be met. There is an expectation of initiative and relatively independent work by the students, with teaching taking the form of mentoring and guidance.

  As for facilitating transition into postgraduate studies and/or employment, this goal should be seen as a more distal outcome of the URAP. The aforementioned skills gained would in turn

help to attain these goals, although direct influence into further studies and/or employment is difficult to document. The following example is, however, an exception, from a participant who was offered a job by the end of the URAP, by one of the team members.

> *I didn't learn anything new in the session, but when I went for a meeting to show the rest of the team the work I have done on the graph and mini biofeedback, [name 3] offered me a job at his company for a certain position* (Male, diary entry 17)

Findings are not homogeneous across the sample, since some projects are more skewed to specific (knowledge/skills) gains than others.

Considerations for institutional practice

Staff-student co-creation/production of outputs should not be limited to publications but include, for example, the production of research instruments and databases.

The students-as-researchers pedagogy should consider product and app development co-production as research deliverables in their own right, even if this conceptualisation of research might not fit neatly into definitions of academic research.

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Note: The University's name has been anonymised according to blind peer-review submission guidelines.