

Doctoral alumni views in hindsight: learning through uncertainty, identifying opportunities 'if I could go back and do it now'.

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In the diverse and changing environment of Higher Education, this paper considers data from a survey and interviews as to what doctoral alumni value in terms of supporting and developing their professional trajectories, and how their changing views can inform the professional skills agenda. It combines findings from my Master's in Education and my experience of working with doctoral students and academic staff at Imperial College London and on international programmes. It proposes enhancements to practice and provision to both inspire and meet the needs and expectations of learners and academics, so improving the research environment.

Any learner faces uncertainty (Baxter Magolda, 1999), and most Science, Technology, Engineering, Maths and Medicine research students in particular struggle with this at some stage. These doctoral postgraduates have generally encountered fairly regulated education where, tested in exams, they might reach graduation from undergraduate or Master's degrees still expecting that there is a "right answer". As they move into research they need to appreciate the uncertainty of research and the importance of the "question".

Meanwhile university departments are constantly dealing with change, review and restructuring, alongside the QAA emphasising the importance of impact, the research environment, feedback, development opportunities and noting a need for reflective practice (recently Indicator 14 QAA, 2013a and Indicator 6 QAA, 2013b).

This study begins to bridge the gap in our knowledge of doctoral alumni views of their experience and the skills gained during their doctorates. Despite an award winning range of support and opportunities across Imperial, many staff and students have difficulty connecting the relevance of the skills they gain to those needed in careers, often misinterpreting the apparent "demands" from the QAA and administration (Hargreaves, 2013).

The social constructivist theory of knowledge informed the methods used in the inquiry. I used a semi-structured approach based on grounded theory to explain reasons and associations. The main theories used in analysis considered educational development and identity and Communities of Practice (e.g. Baxter Magolda, 1999, Law, 1996 and Wenger, 2008).

Alumni interviewed, mentioned the uncertainty of the doctorate noting that they did not necessarily see that there would be a problem till faced by it, nor realise that a skill may be necessary before noticing that they lacked the skill. Their views of the importance of skills during the doctorate changed and some noted their failure to see the value of development opportunities outside of their research:

"I was very focussed on my research....and so anything that got in the way of me doing my research I was really annoyed about, I probably would have seen it as not being required ... I wouldn't have seen it as an opportunity to gain anything..." (alumnus Ben, in Hargreaves, 2013).

They mentioned a lack of confidence during their doctorates and although they now realise that supervisors may not be the best people to advise in all matters, they commented on the need for the supervisor to support development and networking, including providing appropriate review and feedback. They noted that doctoral researchers often had high expectations of the supervisor and that the bond between student and supervisor was strong.

As students, the alumni lacked confidence in discussing problems with peers or asking others, whether because of a lack of awareness, lack of departmental support, or because they did not feel part of the wider university student body at the time. They had tended to assume that the supervisor had a clear idea of what their career path should be and what support departments offer so should be the main source of advice. They often also believed that their supervisor had followed a linear trajectory or career pathway of: doctorate, Postdoc, Research Fellow or Lectureship (the actual trajectory of supervisors may have differed).

These assumptions cause difficulties when a student is interested in taking the same or a different path to the supervisor, as the supervisor may be unaware of current opportunities for the support and development of students. Doctoral students also miss opportunities because they do not appear relevant to them at the time and if they seek what they see as “external” support (Hargreaves, 2013) they often feel that it makes them appear disloyal to their supervisor or department (Vitae, 2007).

The recommendations from the alumni and this study could assist our learning from uncertainty, they include: development opportunities, cohort building and peer support for both staff and students, supervisor guidance and support and use of review, research placements with facilitated reflection before and afterwards, improved inductions for staff (up to senior academics), so developing communities and changing cultures.

Stemming from this research, this paper presents new stylised “*case-study trajectories*”. These offer a tool to rationalise and discuss uncertainty and potential research and career pathways, and to increase the visibility and relevance of the different departments and development opportunities available to both students and staff.

Case-study trajectories could help to contextualise situations and give a way to strategise, they could also be used in supervisor training and facilitate support departments working with academic departments and cohorts.

To make the transferability of skills apparent to students, academic and support departments need to maintain their professional identities while working in networks with employers and alumni to create a more aligned range of opportunities, which appears relevant to doctoral students. Evidence-based *case-study trajectories* can facilitate this networked provision. With a shared recognition of identities it will be easier to assist and advise students and we can achieve true support networks for students and staff.

As part of progressively networked learning institutions, support departments would no longer be seen as external entities. In this way we can help to build environments in which experimentation and questioning are fully encouraged, to enhance UK’s, still leading research institutions.

The findings of this research improved my understanding of the views of our students, including some of the most reluctant, and the data fits with my experience. In a time of change this research

provides feasible suggestions to enhance provision and for systematic improvement to the research environment.

References

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