

Teacher-development strategies and PhD programs

In this first briefing paper for the Office for Learning and Teaching (OLT) project – Reframing the PhD – we describe the different ways in which teacher-development of PhD students is being conducted and then ask what is it that might be missing from those approaches that has led to a situation in which there is a considerable degree of dissatisfaction with the outcomes of current PhD programs. Rather than this being a comprehensive review of the many articles describing approaches to PhD student teacher-development, we have chosen a sample to illustrate the variation in approaches found in that literature. Briefing Paper 2: “a way of analysing, integrating and providing intention to the curriculum of the Australian PhD”, based on a paper by Golde (2006), provides one possible way forward, and one that is being tested in this project.

1. Introduction

The number of PhD graduates in Australia has recently increased dramatically. In 2004, 6238 students graduated with research higher degrees from Australian universities, and by 2013 the number was 8236 – a 31% increase (Guthrie, 2014). The Australian government, in 2013, reported that 46% of the graduating PhD student cohort was employed in Higher Education institutions (GCA, 2014). In 2004 a similar proportion (48% of domiciled PhD graduates) were employed in the UK system (Hopwood & Stocks, 2008, p.188). In short, higher education represents the largest single employment destination for PhD graduates in these two countries.

The striking growth in numbers of PhD graduates, as well as employer feedback about their career preparedness, has understandably prompted considerable discussion about employability (Universities Australia, 2013; DIISR, 2011). Until recently, that discussion has focused almost exclusively on employability outside of academia. However, changes in, and to, higher education are prompting a serious re-think about how well the PhD as the pathway to an academic career, is preparing the future academic workforce. In fact, Probert’s (2014) report is the latest in a long line of international disquiet about the PhD’s indifference to teaching preparation and development (Brew, Boud & Namgung, 2011; Jepsen, Varhegyi & Edwards, 2012; Blouin & Moss, 2015). A report by Metcalf, Thompson & Green (2002) commissioned by the Higher Education Funding

Councils of England, Scotland and Wales recognised that: “[a] concentration on research training has not equipped PhDs to perform other faculty roles, especially undergraduate teaching” (Metcalf, et al., 2002, p.16).

The story from the perspective of current Australian research students somewhat unsurprisingly, echoes the international concerns raised over the past decade. Most consider their PhD program to be effective in preparing them for careers in academic *research*, yet many do not perceive it to be particularly effective at preparing them for other aspects of their academic role such as *teaching* or service, or indeed for careers in other sectors (Edwards, Bexley & Richardson, 2011).

While this project is not only about reframing the PhD to better support the development of university teaching, it is our starting point for a consideration of the relevance of the doctoral curriculum in general. As such we begin the series of project Briefing Papers with a look at some of the recent research into how teacher-development is being done, how it might be done, and some of the issues that arise from current practice.

The teacher-development strategies for PhD students that have been described in the literature are presented here using three categories, as follows:

Category 1 Teacher-development through coursework: Formal award programs on university teaching, short courses, workshops, seminars, online tutoring skills modules, or blogs on teaching for PhD students. Delivery is in different modes (online / face-to-face / blended) and can be part of the formal PhD curriculum or as an add-on;

Category 2 Teacher-development through practice: Teaching internships/ fellowships, practical teaching experience in which the PhD candidate conducts some teaching (in employment or otherwise); and

Category 3 Teacher-development through informal learning: Informal learning about teaching through supervisory meetings, mentoring, peer discussions (for example, laboratory demonstrators comparing notes in the tea room) and observation.

Several of the articles reviewed describe combinations of the three categories. For example, Silverman (2003) suggests a three-pronged approach to developing beginning university teachers:

1. Courses – these might include the following content: (a) the college student, (b) preparation for teaching, (c) teaching methods, (d)

- assessment and grading, (e) improving teaching, and (f) ethics. The paper includes more detailed examples of each category (p.75-76);
2. Teaching practica – these teaching experiences should be progressive with PhD students assisting at first and then taking over more of a class under supervision of the professor. They might also include group instruction, demonstration classes and the submission of a teaching portfolio; and
 3. Mentoring - This would include supervising and sharing resources during teaching practica and engaging in discussions about teaching philosophy and why instructional decisions were made in various classes.

Silverman acknowledges these approaches may need to be adjusted for different students, cohorts and faculties, and interwoven with informal activities.

Initiatives implemented in the USA since the turn of the century, such as Preparing Future Faculty (PFF) (Gaff, 2002) and Re-envisioning the PhD (Nyquist, 2002) also emphasise the use of multiple strategies that cross all three categories, and some, such as at North Carolina State University (NCSU) achieve this aim through independent teaching, a mentorship program with NCSU academic staff, and a strongly recommended course in teaching (Jones, et al., 2004, p.266).

In reality all proposals for teacher-development in categories 1 and 2 would expect some of category 3 to occur informally. For this initial analysis however, we present, in each of the three categories, examples of the published work that exemplifies the strategies adopted in these categories.

2. Teacher-development through coursework

Kiley (2014) in her Office for Learning and Teaching (OLT) report on Coursework in Australian Doctoral Education, adopted a focus on coursework generally, but in an on-line survey (724 responses, 14% response rate) of doctoral students in five universities, she asked specifically about skills development, including teaching skills (p.51). Only 39% said that they had or were undertaking coursework, and when asked to describe the opportunities that they had to develop teaching skills, 64% replied minimal or moderate, with 36% saying they had extensive opportunities.

Despite the limited up-take in Kiley's study results, forms of formal coursework engagement with teacher-development activities are now commonly available to PhD students, though they vary considerably from year-long formal award courses on teaching and learning to series of seminars or short courses. While many are "bolt-on courses" with the limitations of such a curriculum approach

(Barrie, 2004) and some are compulsory (e.g. IT University of Copenhagen, n.d.) increasingly they are being seen as part of holistic doctoral student development, as shown in *Apprise*, the Oxford University Preparing for Academic Practice website (*Apprise*, n.d.). In addition to guidance on “Venturing into Teaching” the site includes information under tab headings of “Being an international PhD researcher”, “Getting through your PhD” and “Academic career paths”. The teaching development options include stages of development from (1) half-day preparation seminars to (2) being mentored by an academic in your discipline, and observing teaching, to (3) sessions of reading and discussions over 3.5 days that may lead to a Teaching Fellowship of the UK Higher Education Academy, and to (4) a one-year part-time course culminating in a Graduate Diploma in Learning and Teaching in Higher Education (Oxford University Support for Researchers, n.d.).

These more holistic approaches are also focused on socialisation processes and on considering the range of academic activities. Austin (2002) suggests a much more organised, explicit process of socialisation that includes discussion of career and academic goals, teaching strategies and institutional service. She notes that this could be implemented through a systematic program of feedback and assessment with academic staff, informal peer relationships and ongoing self-reflection. In a follow-up article with McDaniels (Austin & McDaniels, 2006) she uses Boyer’s ‘Four Domains of Scholarship’ (Boyer, *Scholarship Reconsidered*, 1990) as a conceptual model for professional development. The three-dimensional model involves:

1. Preparation Strategies (modelling, professional seminars, certificates, conversations and internships)
2. Responsible Stakeholders: (faculty, graduate programs, universities, professional associations, agencies and foundations)
3. Scholarly Domains (Application, discovery, integration, teaching)

The article provides some examples of how the three dimensions of the model could operate together and some examples of universities currently using some similar strategies.

The need for wider use of such approaches is highlighted by Brew, *et al.* (2011). From a survey of academic skills development in six Australian universities they concluded that there is a need to foster value for the development of a broad range of skills that are not currently specifically addressed – especially teaching undergraduates.

A theme of tailoring the use of coursework to develop individual teaching needs is emerging in the literature (e.g. Silverman, 2003; Cumming, 2010) and in the case of the latter research, Cumming discusses the contextual diversity of doctoral programs and the difficulties of providing a model that integrates all

needs. So his suggestions are for a more flexible approach where there are 'joint responsibilities' (p.36) for both student and faculty. A more dynamic approach to doctoral practices and arrangements, rather than a one-size-fits-all approach is considered to be more useful. A range of these practices is provided (p.33) involving a one-on-one negotiation for individual students, or an arrangement based on the needs for the course.

3. Teacher-development through practise

More than a third of PhD students engage in some form of teaching during their PhD candidature. In surveys conducted with doctoral students at Oxford University (Trigwell & Dunbar-Goddet, 2005) and at Sydney University (2014), 45 and 38% respectively say that they have taught undergraduate students. While this is seen as a positive in terms of broadening their perspectives about their field, it is also, in many cases, unqualified and unsupported teaching. Harland & Plangger (2004) suggest that more is needed in integrating 'teacher education' and 'research training.' They provide an example from their earlier work (Harland, 2001) using an interdisciplinary community of teacher training from the UK. Boud and Tennant (2006) take this argument further in a focus on 'generic professional doctorates' that offer non-traditional, interdisciplinary PhD programs. They identify some of the challenges of providing a less conventional, discipline-based curriculum and conclude that this requires more collaboration between workplaces and faculties and an overall change of academic culture to operate effectively within the new framework. It is this type of change that may also be needed in the reframing of the more conventional PhD in the provision of teacher-development for future academics.

An internship with paid incentive that incorporates both formal and informal development of teaching is described by Partridge, *et al.* (2013) in a case study of a Postgraduate Teaching Internship Scheme at an Australian research-intensive university. The program includes:

- Application and recommendation through the faculty/supervisor;
- An internship supervisor who provides formal and informal feedback and assists in the organisation and completion of the internship program;
- Financial incentives (for both teaching and professional development);
- Participation in 50 hours of professional development (comprising an intensive three-day workshop at the start of the year plus 30 hours of seminars over two semesters);
- Undertaking 104 hours of teaching;
- Developing a 'Teaching and Learning' portfolio that outlines teaching strategies, resources and activities; and
- Curriculum design

Kiley (in Hopwood, *et al.*, 2010) emphasises the need for the inclusion of socialising and modelling elements in internship-based contexts, and Jepson, et al. (2012) provide an outline of how the teaching side of such a practice-based internship might be supported through:

- Information dissemination to supervisors about teaching training (certificates, diplomas, etc.)
- Increased responsibility of academic supervisors (for teacher development)
- Performance indicators for beginning teachers
- Formal and informal discussions (which would be the responsibility of the supervisor)
- New teacher to develop reflective portfolios in conjunction with supervisor and faculty expectations.

Suggestions for the auditing and evaluation of the approaches described in this category are provided by McWilliam & Singh (2002) and Hopwood & Stokes (2008) respectively. Hopwood and Stokes report that 'students perceive benefits founded upon the establishment of new rules (formal recognition), mediating tools (mentors), community (reading groups), and division of labour (teaching experiences)' (p.194). The offering of resources (predominantly the mentor) helped the students develop their teaching-related 'objects' (resources, skills etc.).

4. Teacher-development through informal learning

As mentioned above, much of the teaching practice that students engage with is unsupported, and students are left to their own resources, their peer networks and the use of their experience as students. In 2010, Hopwood reported on a study that looked largely at the informal outcomes of doctoral students from a sociocultural perspective. He found that much of the learning that takes place through doctoral activities (such as teaching, editing and publishing) happens outside of formal structures. In his conclusions he cautions against oversimplified provisional outcomes of the curriculum in favour of more indirect, *in situ* learning that is likely to occur outside of the formal support or rewards structures (Hopwood, 2010).

5. Existing shortcomings

If we look at this analysis through the lens of the issues raised in the introduction to this paper, several shortcomings are apparent.

In all documented cases of actual practice, there is no description of a change in the research agenda of the PhD. The teacher-development is being sought through an *addition* to an existing research curriculum. There is some consideration of how the core research learning experience could deliver different broader outcomes, but no examples of it happening. This is still the case despite calls for the need for change, for example by Austin (2002) “some of these ideas and programs call for considerable, even radical, rethinking of the way in which doctoral education historically has been approached.” (p.138) and by Gaff (2002) who considers that change needs to come through wide consultation.

“These studies document serious problems with traditional practices in doctoral education and the need for improvements in the way faculty members are prepared. At the very least these studies beg for conversations among graduate deans, department chairs, directors of graduate studies, graduate faculty and graduate students – and administrators and faculty members at primary undergraduate institutions that hire most new faculty.” (Gaff, 2002, p.66)

Part of the reason is that there is a reluctance to change a PhD program that most commentators would describe as having been successful. This reluctance is seen starkly in the North Carolina State University PFF case evaluation (Jones, et al., 2004) where opportunities for students to teach were provided, but many academic staff continued to see this as time being taken from the research program. They raised concerns such as turning the PhD into an applied teaching degree, the replacement of research training with the extra teaching activities, and fears that the activity would restrict the university’s ability to raise its own standing in the national rankings. Sixty two percent of the academic staff declined to participate (Jones, et al., 2004, p.271).

A second shortcoming is found in the nature of the teacher-development proposed. Many current strategies suggest an impoverished view of teaching as simply practical ‘skills’. Teaching includes an awareness of the ways of the learner, the design of the learning experience, the development of the object of study, creating interaction between the learner and the object of study, and monitoring the learning experience. Macfarlane (2007) describes teaching as having three phases: pre-performance, performance, post-performance (p.56). In addition, the nature of teaching is changing. Less time is being spent on the face-to-face aspect of teaching and more on design of the learning experience (often with considerable technical support, for example in simulations and digital media-based discussion forums). More emphasis is being given to engagement with learning before teaching (as in the flipped classroom idea), more use is being made of learning analytics, assessment and feedback have become more a

part of the learning process, and learning is being supported in a greater variety of contexts outside classrooms and universities. In these cases, the performance phase is much reduced, and is absent in some instances.

If the focus of these programs is seen by the PhD students as being on skills development as taught performance skills – not learned dispositions or ways of thinking about teaching across all three phases, it may explain why the uptake of provided courses is low. Despite around 70% of PhD students saying that they would like to pursue an academic career, the uptake of teaching development course opportunities is substantially less.

Three sound proposals for improvements in teacher development are described in the literature reviewed for this paper –(i) individually tailored programs, (ii) greater recognition of the value of informal learning and (iii) more support for the PhD students who elect to develop teaching through a teaching practise approach. In terms of current PhD programs, feasibility is the problem with these three suggestions. With numbers of PhD students increasing, to what extent is personal tailoring feasible? If greater recognition of the value of informal learning is achieved, and more formal use is made of it, does this mean that it loses some of its informality? Is such an achievement feasible without this loss? As is the case for the individual tailoring approach, attempts to provide even more support for the PhD students who elect to develop teaching through a teaching practise approach is likely to create issues for the students who are not supported. The initiative at Emory College in the USA that provided an opportunity for PhD students to teach first year classes in their area of research was only able to support 10 of the 76 applicants (Sales, et al., 2007). Is it feasible to provide support all students?

To address these issues some authors have called for a more holistic focus for the PhD that is experienced by all students. For example, Nyquist (2002) notes that “the challenge remains to make ... innovative ventures integral, not merely add-ons, to traditional practices.” (p.19) There is a challenge in providing a less conventional, integrated curriculum that requires more collaboration between graduate schools and faculties and an overall change of academic culture to enable a new PhD curriculum framework to be debated. The concept of stewardship, as one way to take this debate forward, is discussed in Briefing Paper 2.

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