

## Embedding teacher-development strategies into the PhD learning spaces

In Briefing Paper 1 (2016) *Teacher-development strategies and PhD programs*, we described the range of ways that teaching development for PhD students is described in the literature, noted some shortcomings, and concluded with the following note from Nyquist (2002): “the challenge remains to make ... innovative ventures integral, not merely add-ons, to traditional practices.” (p.19). In this third paper, we begin to address the challenge of providing a less conventional, integrated curriculum by taking the four learning spaces of the current research-based PhD curriculum, and providing examples of how those spaces might also encompass teaching development. In Briefing Paper 4 (2016) we use the concept of stewardship introduced in Briefing Paper 2 (2016) to broaden the learning spaces-based analysis towards a stewardship-based PhD and how it might differ from a research-based PhD.

### 1. Introduction

For teaching development to be realistically encompassed within the contemporary PhD it, as with the development of many of the other ‘missing’ capabilities identified in the shortcomings of current doctoral education (ACOLA 2016), may need to be seen as being more integral to the PhD curriculum. In other words, teaching development needs to be seen as a part of the research focus of the PhD (the core research-based activities), rather than a set of add-on skills.

To enable this integrated approach it first requires a consideration of how we currently frame thinking about the ‘curriculum’ of doctoral education, (as discussed in Briefing Paper 2, 2016) and recognition of how ‘uncomfortable’ that framing is, before we can attempt to engage with it. As an alternative way of framing the ‘doctoral curriculum’ we draw upon the four learning spaces: (1) The research project / thesis (2) The supervision of that project (3) The department context / disciplinary communities in which this is situated and (4) the co-curriculum that has been added through skills/attributes workshops and courses, identified in Briefing Paper 2 (2016, p6).

Taking teaching as one of these ‘missing’ capabilities, the core research-based activities in each of the four learning spaces (research project, supervision, departmental context and skills development) are then described, and two examples given of how teaching development might be a part of those core activities.

We conclude with the suggestion that there are perhaps underutilised opportunities to develop teaching practice within existing familiar researcher development practices.

## 2. Curriculum

In Briefing Paper 2 (2016) we touched on the idea of ‘curriculum’ as emerging (somewhat uncomfortably) within the current conversations about the perceived limitations of the current PhD as a preparation for future employment. The introduction of the term ‘curriculum’ in doctoral education has elicited a similar range of reactions and misunderstandings to those that greeted its entry into Higher Education some decades ago. This is perhaps understandable, as while ‘curriculum’ is a much-theorised and much-contested concept in the discipline of Education, it remains far less theorised (and perhaps differently contested) in the field of Higher Education. In Higher Education ‘curriculum’ has come to be understood by some academics as a means of making and managing (controlling) decisions about teaching processes (what and how) and learning outcomes (what and how). Stark and Lattuca’s (1997) observation that curriculum is typically understood by universities in an ‘instrumental’ way (the organisation of the content and the timeframe and manner in which that will be provided to students) is possibly even more true, nearly 20 years later, with the overlay of pre-packaged ‘digital learning resources’ and ‘learning management systems’ in addition to the contractual documentation of curriculum in ‘subject outlines’. Such a conception of curriculum does not do justice to higher education (Barnett 2009) and nor would it appear likely to be welcomed by doctoral education.

However, for many academics curriculum is more than the ‘content and the structure’. It encompasses, to varying extents, the learner. Curriculum can be primarily about the learner’s experience of the ‘what and how’ of teaching, and for some it is broader still, and encompasses the learner’s engagement with all aspects of the higher education experience – not just the experience of what is formally taught. For some academics a learner-focussed curriculum moves a step further, and is seen as a site for contestation and learner identity formation. Fraser and Bosanquet (2006) provide a helpful analysis of the range of understandings described by academics in their study in relation to Habermas’ knowledge-constitutive interests: the technical, practical (communicative) and emancipatory.

‘A *technical* curriculum interest focuses on structuring and managing objects and the environment. In these terms, the function of the curriculum is to define and control student learning. The outcomes of the experience of the curriculum are viewed as tangible products, and conform to the teacher’s original intentions for it.’ (p279)

‘A *practical* curriculum interest aims at reaching an understanding that enables appropriate action to be taken ... . The student and teacher interact to make meaning of the subject matter, thus equipping students to act on these

meanings ... Teachers with a practical cognitive interest are concerned that interactions in the learning environment provide appropriate opportunities for learning. The curriculum places emphasis on actions or practices which arise as a consequence of reflection.' (p280)

'An *emancipatory* curriculum interest strives for empowerment, rational autonomy and freedom... The curriculum that they envisage is a process, which strives for social and intellectual empowerment, and is truly negotiated. The power resides with the students as learning takes place within a community of scholars, with the ultimate aim of empowering them to be effective as individuals and members of society. Their vision is potentially boundary-less, with change the outcome and process of curriculum.' (p281-282)

In considering curriculum's foray into doctoral education from these three perspectives, it would seem at first glance, that many supervisory practices are inherently grounded in both practical and emancipatory interests. Indeed, they would seem more explicitly so than in coursework. However, while many PhD supervisors and students may indeed resonate with an emancipatory interest, the reality for many is perhaps a doctoral experience increasingly dominated by a curriculum foregrounding technical interests of doctoral milestones, candidate management, and completion rates. This echoes McWilliam and Singh's (2002) speculation identified in Briefing Paper 2 (2016), that one of the reasons why 'curriculum' has seemed such an ill-fit for doctoral education is that in taught coursework contexts 'curriculum's imperative is to contain knowledge'... while the 'imperative of research is to discover new knowledge' (p.3).

'Curriculum' is without doubt a powerful tool for unpacking and designing learning. However, even in more familiar domains of education it is also frequently misused and misunderstood. While some academics working in doctoral education might hold a helpful conception of curriculum that is more akin to Barnett's (2009) ideas of 'becoming' and 'subject formation', developed by the learner's engagement with Osberg and Biesta's (2010) 'tangle of taught content and pedagogy', others may not. As such it is perhaps not the most useful tool for those seeking to unpack or re-design doctoral education in their own universities.

However, if we are to remake the PhD to better support the development of future university teachers as well as researchers in industry we still require a way of *unpacking the opportunities for learning that currently comprise the PhD*. With that aim we have proposed a framing of doctoral education as four learning spaces that make up (to varying extents) the traditional research-focused PhD:

1. Research project / thesis
2. Supervision
3. Department context / disciplinary communities
4. Skills/attributes workshops courses

While these are traditionally learning spaces in the PhD *for research and researcher development, in this paper we will examine how these learning spaces*

*might also inherently support the development of doctoral students as future teachers.* In doing so we begin with the conclusion of Briefing Paper 1 (2016): That the majority of teaching development strategies reported in the literature are variations of skills workshops and courses, and are an un-integrated 'bolt-on' to the other (research development) learning of the PhD.

For each of the four learning spaces described in section 3-6 below, we first articulate the parameters of the space and then consider examples of how the opportunities for researcher development might also support teacher development. As noted in Briefing Paper 1 (2016), 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. These changes create more opportunity for the research-focused components of the PhD to be used in an integrated way in the development of teaching.

### **3. Research project/thesis**

The research project and production of the thesis is the undeniable 'heart' of the PhD. The core research-based activity that supports learning in this space is the formulation and design of research questions and of the processes used to address those questions. It involves developing a deep understanding of the topic and field, the current literature, the relevance to the discipline, and it involves conducting the research and documenting the project and the learning from that project in some form of thesis. Of the four learning spaces this is perhaps the most familiar to those within and outside of, doctoral education. Indeed it is so familiar that it is sometimes perceived to be the entire experience.

The two examples provided below show how the support of research development for the research project and thesis might also support the development of teaching expertise. In essence, the first example focuses on doctoral students explaining, to someone outside the area of the research, the nature of the project and assessing how well that explanation was conducted. While the process of developing the explanation is seen to assist an understanding of the research, it could also be described (and discussed with the PhD student) as the development of teaching material. The assessment element parallels both assessment and evaluation in teaching. The second example involves doctoral students designing a small undergraduate research project related to their research and mentoring the students who are engaged with it. Again, while focussed on their research, the design and mentoring aspects can also be linked to teaching development.

*Example 1.* PhD student synthesises the essence of the research project, and explains it, in a mini seminar/ lecture/ course module. This involves reflecting

on method/results/literature, explaining it by showing relevance to other ideas and/or to application. There are many presentation modalities (podcast, written, twitter, blog, flipped curriculum, etc.) that could be employed. Presenting is also important because it is imperative for a doctoral student to learn to profess their discipline in public arenas. A great deal of discipline knowledge is highly relevant to economy, society and environment. This is not always well-understood or articulated and 'teaching' the public is another important dimension of doctoral graduate responsibility. A crucial element is the design of an assessment task to test the effectiveness of the communication of the key features of the research.

*Example 2.* PhD students design an undergraduate research "teaching" project for undergraduate students drawing on an aspect of their own research project and implement this by mentoring the undergraduate student teams, in collaboration with fellow PhD students under the supervision of staff in the department.

#### **4. Supervision**

The core research-based activity in supervision involves supporting the PhD student to develop as a researcher, using the research project as a vehicle for that learning and development. In some disciplines, the supervisor may have a ready project for the student, while in another context the student negotiates the topic of their PhD research. This involves the supervisor in an assortment of activities: providing guidance to support the student in developing the overall direction of the research project; helping students understand the topic of the research (and its scope) and how it is situated in the field alongside its warrant, supporting students coming to grips with the design of the study including knowledge of methodology and methods (and their implications for interpretive claims about findings), attention to students' written communication, empowering students to navigate the institutional landscape with confidence, guiding their entrance into networks of global research communities, and caring for the desires students' express related to personal ambitions, professional aspirations, and career development. Lee (2012) summarised these activities in a supervisory model that included five elements: functional (project management), enculturation (draw student into disciplinary community), critical thinking (question and analysis of work focus), emancipation (question and analysis of self) and relationship development: (enthusiasm, nurturing).

In a Swedish study on supervisors' different ways of experiencing supervision, Franke and Arvidsson (2011) found a tendency toward two distinct orientations: a focus on research-practice where the supervisor's intention is to transfer a research tradition and mediate a research practice, and a focus on relation-oriented practice where the supervisor's intention is on their role as a dialogue partner, mentor, and mediator of expertise. In a UK study by Akerlind and McAlpine (2015) exploring supervisors' variation in purpose and pedagogy, supervisors offered three overarching intentions for their practice: to help students become self-sufficient as a researcher through training in skills and requirements; to support students to become innovative researchers by

cultivating their ability to create new ideas; and to aid students' development as an individual by helping them enjoy and commit to the doctoral experience. Both these studies provide some insight into the complexity of supervision.

As any academic knows, the process of supervision is intricate, involving expertise in mentoring, diagnosing misunderstandings of concepts, facilitating learning of new concepts, supporting the development of advanced analytic and academic communication skills, all set against the institutional landscape and disciplinary conventions. While focused on the development of research capabilities, the act of supervision itself is fertile ground for learning about teaching.

The two examples provided below show how the quality of that process may be enhanced and also provide opportunities for students to develop as teachers, by first giving students the chance (with support) to meta-cognitively assess their project and its outcome, and second, to see their interaction with their supervisor through the eyes of a/the supervisor.

*Example 3.* Supervisor reflecting on and negotiating / co-designing with the student, the activities associated with thesis/research project supervision. This can take the form of a discussion of the student's supervisory needs and expectations supported by the use of rating scales (e.g. <https://www.adelaide.edu.au/graduatecentre/forms/supervision/docs/scales.pdf>). It can include reflecting on the student's experience of supervision and inviting the student to provide suggestions for how to improve the supervisory process.

*Example 4.* Inviting students to step into the role of 'peer-supervisor' for other students in the department. This can be achieved by asking students to provide feedback on written drafts and presentations by their peers. It is also achieved through student contributions to group supervision meetings discussions where several students and supervisors come together to review work on their doctoral research projects.

## **5. Departmental context/ disciplinary communities**

The core research-based activities in the local department and in disciplinary communities are in supporting the PhD students to build networks and connections with other researchers in order to progress their current and future research. The local department is also the place where students learn and are engaged in the micro-practices of enacting the discipline with others. This engagement with the local department and the international disciplinary community is important because it enables doctoral students to explore and test their understandings of the concepts and ideas they are using in their research, to communicate and share their findings for use by other researchers, and to build collaborations for future research projects and funding.

The two examples provided show how the quality of that process may be enhanced by first introducing the student to the wider academic context in

which both teaching and research occurs, and second, in providing the department with material that comes from the student thinking through how to organise a elective topic that could be used in departmental courses.

*Example 5.* Presenting research findings at a research conference. A conference presentation of the student's research findings is a common developmental activity for many students. While focussed on communicating the research to the discipline community, the skills developed in planning and delivering a conference presentation, identifying and explaining the important concepts, engaging with the audience to monitor their understanding during the presentation, and responding to questions from conference delegates are also skills that support the planning and effective presentation of a lecture or tutorial. Working with the student to plan and develop a conference presentation of their research findings in this way, from a teaching perspective, will not only improve the quality of their research communication, but could also support the development of skills and expertise as future teachers in the discipline. The research presentation activity may be extended to encompass working with the student to plan a teaching session on the same topic to further highlight the relevance to teaching.

*Example 6.* Participating as a team member in the planning and writing of a grant application with the supervisor and department colleagues, or with other doctoral students, is a useful research development activity for PhD students. As aspiring researchers, the ability to work collaboratively as part of a grant writing team is important, as is the ability to plan and justify a proposed project. These skills are also important to aspiring teachers. Teaching, particularly for new academics is often conducted as part of a team. Planning and justifying a curriculum project or new course proposal is a core part of many academics' teaching duties. The collaborative research grant writing task could be usefully extended to more explicitly encompass teaching development by inviting doctoral students to participate in curriculum development teams in the department or with the supervisor or other students on teaching development grant applications in the department.

## **6. Skills development (via workshops, on-line modules, etc.)**

The core research development activities in the skills area are workshops and seminars that provide the PhD students with the tools they need to be an effective researcher. These training activities support students in developing their understandings and skills in relevant research processes (for example preparing ethics applications, referencing, searching databases, intellectual property, writing for publication, developing a social media profile, preparing a CV, etc.). This aspect of the doctoral learning experience is the aspect most commonly used for developing teaching through student participation in teaching skills workshops. However, in addition to including teaching development workshops and modules, the two examples provided show how participation in research workshops might also be extended to develop students' skills and understandings as future teachers as well as researchers.

*Example 7.* Intellectual property and copyright are popular topics in research skills workshops as such an understanding is important for future researchers seeking to commercialise their work and for researchers seeking to disseminate their work and publications through various social media. Locating and deploying open source resources is also a key component of teaching in today's digital learning environments and increasingly curriculum artefacts are shared through digital repositories, identifying, tagging and acknowledging the use of such resources is an important skill for future teachers to develop.

*Example 8.* Developing expertise in the practices and scholarship of 'supervision' through participation in supervision development programs, will enhance the contribution a PhD student can make to the quality of her own research learning in the supervisory relationship, as well as equipping her for this important aspect of her future academic teaching career.

## 7. Conclusion

In all the contexts we have explored, there is an opportunity given (though not always taken up) for the PhD student to do some teaching (usually tutoring and/or laboratory demonstrating). In many cases there are also opportunities for students to learn about the principles of university teaching through teaching workshops and courses. The examples provided above are not intended to replace any of those opportunities. They are designed instead to show how the learning opportunities, practices and contexts we draw upon to support students' development as researchers can also support their development as teachers. In some cases the identical activity supports both outcomes, in other cases it only takes a small adjustment or re-focussing to gain significant additional benefit. There may be opportunities in the processes of conducting those examples to link the activities with the more conventional teaching opportunities, but that could also be left to the students themselves to discover. The examples provided illustrate some ways in which the development of teaching practice can be integrated with the development of research practice.

*Prepared by Simon Barrie, Tai Peseta and Keith Trigwell for Project team:  
(Simon Barrie, Jeanette Fyffe, Joe Graffam, Alistair Kwan, Peter McCallum, Lee Partridge, Tai Peseta and Keith Trigwell)*

## References

- ACOLA (2016). Review of Australia's Research Training System. Australian Council of Learning Academies. Accessed November at [www.acola.org.au/index.php/projects/securing-australia-s-future/saf13-rti-review](http://www.acola.org.au/index.php/projects/securing-australia-s-future/saf13-rti-review)
- Akerlind, G. & McAlpine, L. (2015). Supervising doctoral students: variation in purpose and pedagogy, *Studies in Higher Education*, published online in December, <http://dx.doi.org/10.1080/03075079.2015.1118031>
- Barnett, R. (2009). Knowing and becoming in the higher education curriculum, *Studies in Higher Education*, 34(4), 429-440.

- Briefing Paper 1 (2016). Teacher-development strategies and PhD programs. OLT project: Reframing the PhD for Australia's future universities. <http://reframingphd.com.au/>
- Briefing Paper 2 (2016). Stewardship: a way of analysing, integrating and providing intention to the curriculum of the Australian PhD. OLT project: Reframing the PhD for Australia's future universities. <http://reframingphd.com.au/>
- Briefing Paper 4 (2016). OLT project: Reframing the PhD for Australia's future universities. *in preparation*.
- Franke, A. & Arvidsson, B. (2011). Research supervisors' different ways of experiencing supervision of doctoral students, *Studies in Higher Education*, 36(1), 7-19.
- Frazer, S. P. & Bosanquet, A. M. (2006). The curriculum? That's just a unit outline, isn't it? *Studies in Higher Education*, 31, 269-284.
- Lee, A. (2012). *Successful research supervision: Advising students doing research*. Oxon, Routledge.
- McWilliam, E. & Singh, P. (2002). Towards a research training curriculum: what, why, how, who? *Australian Educational Researcher*, 29(3), 3-18.
- Nyquist, J.D. (2002). The PhD: A tapestry of change for the 21<sup>st</sup> century, *Change*, 34, 12-20.
- Osberg, D. & Biesta, G. (2010). The end/s of education: complexity and the conundrum of the inclusive educational curriculum, *International Journal of Inclusive Education*, 14(6), 593-607.
- Stark, J. S. & Lattuca, L. R. (1997). *Shaping the College Curriculum*, Allyn and Bacon: Boston.