Towards a framework for the professional development of doctoral supervisors

Stan Taylor

Introduction

Last year, Research Councils UK (2013:1) issued a Statement of Expectations for Doctoral Training which included a clause that:

> Research Organisations are required to provide excellent standards of supervision, management, and mentoring. Supervisors must receive the support and training that they need to provide the highest quality supervisory support for their students.

Research organisations receiving funding from the individual research councils that are collectively represented by RCUK will have to report on how they are implementing this, which of course begs the questions of what supervisors have to do to provide such support to their students and of what training and support they need to receive to be able to fulfil this function successfully.

The present paper seeks to provide possible answers to these questions. It is divided into four parts. The first considers the changing environment of doctoral education over the past three decades or so and draws out the implications for supervision. In the light of these, the second part sets out the key attributes that supervisors need to offer high quality support to their research students. In the third part, these attributes are used to define an outline framework for the professional development of doctoral supervisors which can be used to benchmark existing provision. In the final part, resources are identified to support those responsible for the professional development of supervisors to fill any gaps.

Changes in doctoral education and the implications for supervision

While the doctorate itself has mediaeval origins, the research doctorate dates only from 1810. This saw the creation of the University of Berlin as a new kind of university dedicated to research, and the establishment of a new degree, the PhD. To gain the award, candidates had to find themselves a supervisor; undertake a research project; write it up in the form of a thesis; and successfully defend it in an oral examination.

The new qualification was intended for a tiny handful of the brightest and the best; it was based on a 'master-apprentice' model; there were no time limits on completion as creating knowledge took as long as it took; and the rationale was to train new researchers to reproduce the academic population.

From its origins, the modern research doctorate spread during the 19th century to the United States and then in the first three-quarters of the 20th century across the globe. By the end of the 1980s, it was all but ubiquitous, but still in a form which was recognisable as the degree pioneered in Berlin nearly two centuries previously.

However, over the last three decades or so, as Hammond et al (2010) have suggested, the doctorate has been transformed by four major developments, namely formalisation, growth and diversification of the candidate population, diversification of modes of study, and diversification of purposes. The author has described these in detail elsewhere (Taylor 2009, 2012) and they can be summarised as:

Table 1   Changes in doctoral education and the implications for supervision

Processes	Description	Consequences for Supervision
Formalisation		
Commodification	Under the influence of neo-liberal government policies, there has been a shift from the traditional master-apprentice model towards one based more on producer and consumer (see Grant 2005, Dann 2008)	Supervisors have to be more aware of and responsive to the needs of their students both individually and over the course of the project in order to offer them a high-quality learning experience
McDonaldisation	Whereas doctorates historically took as long as they took, many research sponsors now expect students to complete within three or four years and in some cases impose sanctions on departments or institutions if not enough do so (see Blackmore and Nesbitt 2008, Sampson and Comer 2010)	Supervisors have to be aware of the signs of non- or delayed completion and how to support students to complete on time and of their roles in formal institutional procedures for monitoring and reviewing progress
Regulation	Historically supervision was an essentially private activity (see Halse 2011) but it has become heavily regulated through the introduction of policies for health and safety, research ethics, and intellectual property rights as well as systems for quality assurance and enhancement (see Byrne et al 2013)	Supervisors need to be aware of and adhere to international, national and institutional codes of practice governing health and safety, research ethics, intellectual property rights, and the respective responsibilities of supervisors and students.
Collectivisation	Traditionally, supervision outside the sciences involved a one-to-one relationship with the student, but in recent years there has been a generic shift to supervision in teams and research groups (see Hakkarainen et al 2014)	Supervisors need to be able to effectively manage relationships with formal and informal co-supervisors
Growth and diversification of the candidate population		
Massification	There has been a huge expansion in the numbers of doctoral students, with Europe now producing 100,000 a year and China and the US each producing over 50,000 (see Cryanoski et al 2011, Halse and Mowbray 2012)	There are many more students to supervise and this raises issues of how larger numbers can be managed within what is already a huge workload for many supervisors

Table 1   Changes in doctoral education and the implications for supervision (cont.)

Processes	Description	Consequences for Supervision
Growth and diversification of the candidate population (cont.)		
International diversification	This expansion has in large part been driven by the international mobility of students so that by the early 21st century international students had come to comprise 41% of all research students in the UK; 25% in France; 23% in South Africa; 21% in Canada; 20% in Australia; 18% in Japan; 14% in the USA; and 10% in Germany (Powell and Green 2007	A significant proportion of research students are likely to be recruited from another country where they may potentially have been socialised into a different educational system and have different expectations, values and skills
Social and economic diversification	Traditionally doctoral students have been male, from upper middle or middle class backgrounds, white and not disabled; increasingly they have become female, from lower class origins, from minority ethnic and racial groups, and have disabilities (see Petersen 2012)	Students now come from a much wider range of backgrounds and bring additional qualities to their studies but they may also have different needs for support and encouragement
Diversification of modes of study		
Growth of part-time study	Traditionally doctoral students have studied full-time but increasingly and particularly in the arts and humanities and social sciences many have been studying full-time while in employment (Green and Powell 2006, McCulloch and Stokes 2008)	Part-time students bring maturity and professional expertise to their studies but have competing home and work priorities and pressures upon their time and energies
Studying off-campus	Traditionally students have studied on campus but increasingly they are studying off-campus (Erichsen et al 2012);	Where students are studying predominantly off-campus, there may be relatively little opportunity for face-to-face contact and supervision has to be by other means
Diversification of purposes of study		
Training cross-disciplinary researchers	Traditionally doctorates were undertaken in single disciplines but increasingly funded research projects are multi-, inter-or trans-disciplinary (see Blackmore and Nesbiitt 2008, Kiley 2009)	Supervisors may have to work with research students and co-supervisors from other disciplines which may have different vocabularies, perspectives and methodologies

Table 1   Changes in doctoral education and the implications for supervision (cont.)

Processes	Description	Consequences for Supervision
Diversification of purposes of study (cont.)		
Training 'researching professionals'	Traditionally the purpose of doctorate was to train professional researchers but this has been expanded to training 'researching professionals' leading to the development of new forms (see Kot and Hendell 2011, Malfoy 2011, Paltridge et al 2011, Niven and Grant 2012)	Supervisors may have to supervise doctorates which are very different in form and structure from the PhD by thesis and which demand different knowledge and skills
Training key workers for the knowledge economy	Historically the doctorate was intended to reproduce the academic population but it has been accorded a much wider role in producing key workers for the knowledge economy (see Byrne et al 2013).	As well as supporting students to develop academic careers, supervisors need to be aware of institutional provision to support them to enter non-academic career paths.

Attributes for supervisors

In order to meet these challenges, supervisors now need to develop a very wide range of attributes. In the table below, general ones are set out in the second column and specific ones in the third.

Table 2   Attributes for supervisors

Change	General attributes	Specific attributes
Commodification	Knowledge and understanding of the dynamics of the supervisory relationship (see Gurr 2001, Gatfield 2005, Lee 2012)	- An awareness of preferred supervisory styles and the links to student needs - A repertoire of styles to meet the needs of individual students - An ability to align styles to the relevant stage of the research project
McDonaldisation	Knowledge and understanding of how to support students to complete on time (Ahern and Manathunga 2004, Mewburn et al 2013)	- An ability to recruit students who are likely to complete on time - An awareness of the causes of delay - An understanding of how to go about motivating students

Table 2   Attributes for supervisors (cont.)

Change	General attributes	Specific attributes
Regulation	Knowledge and understanding of relevant external and internal policies and procedures and codes of practice (see McWilliam 2004) and of team supervision	A knowledge and understanding of: • policies and procedures governing health and safety, research ethics, and intellectual property rights • institutional codes of practice governing research degrees and including the respective responsibilities of supervisors and students • formal institutional policies and procedures for monitoring progress and of the roles of supervisors in implementing them
Massification	A knowledge and understanding of how to supervise larger numbers of research students (see Samara 2006, Fenge 2012 and Holloway and Alexandre 2012)	• An awareness of relevant strategies including group supervisions and cohort building
Collectivisation	A knowledge and understanding of the dynamics of multiple supervision (see Watts 2010, Guerin et al 2011, Guerin and Green 2013, Vehvilainen and Lofstrom 2014)	A knowledge and understanding of: • The benefits of multiple supervision • The pitfalls • How to manage it effectively
Internationalisation	A knowledge and understanding of how to effectively supervise students from other cultures and educational backgrounds (see Winchester-Seeto et al 2013)	• An appreciation of the benefits of international students • A knowledge of recruitment policies and procedures • An understanding of their needs • The inter-cultural competences to respond to those needs • A knowledge of institutional sources of support for international students

Table 2   Attributes for supervisors (cont.)

Change	General attributes	Specific attributes
Social and economic diversification	A knowledge and understanding of how to supervise students from non-traditional backgrounds (see Gardner 2009a, Brown and Watson 2010, Barker 2011, Petersen 2012)	• An appreciation of the benefits of non-traditional students • An understanding of their needs • The social competences to respond to those needs • A knowledge of institutional sources of support
Part-time students	A knowledge and understanding of how to supervise students who are studying part-time (see McCulloch and Stokes 2008, Watts 2008)	• An appreciation of the benefits of part-time students • An understanding of their needs and priorities • The abilities to respond to those needs • An awareness of institutional regulations and sources of support
Students studying at a distance	A knowledge and understanding of how to supervise students studying predominantly off-campus (see Andrew 2012, Erichsen et al 2012, Nasin and Mafaken 2014)	• An understanding of the issues facing students studying at a distance • A command of relevant technologies including social media and video conferencing
Training cross-disciplinary researchers	Knowledge and understanding of how to supervise research across more than one discipline (see Boden et al 2011)	• An awareness of the issues in conducting research across disciplines • The teamworking and negotiating skills to work effectively with supervisors and students from other disciplines
Training researching professionals	A knowledge and understanding of the differences between different types of doctorates and the implications for supervision (see Malfoy 2011)	• An awareness of differences in the structures of different types of doctorates • An awareness of differences in supervisory roles in different kinds of doctorates • Where relevant, the skills to work effectively with external supervisors

Table 2   Attributes for supervisors (cont.)

Change	General attributes	Specific attributes
Training key workers for the knowledge economy	A realistic knowledge and understanding of career trajectories for doctoral graduates (see Craswell 2007, Jackson and Michelson 2014)	• Knowledge and understanding of how to support them in academic careers • Appreciation that many will be seeking careers outside academia • Knowledge and understanding institutional sources of support for students seeking non-academic careers

Towards a framework for supervisor development

If these constitute the attributes which supervisors need, then by extension they define what should be the intended outcomes of developmental activities to support supervisors to prepare for and carry out their roles. In Table 3 below, a possible framework for supervisor development is set out which incorporates these outcomes and which could be used to plan workshops.

Table 3   Framework

Dimension	Aim	Content
The regulatory context	To familiarise supervisors with the regulatory context of supervision	National, sponsor and Institutional policies and procedures for: • recruitment and selection • health and safety, research ethics, and intellectual property rights • the portfolio of research degrees (including the respective responsibilities of supervisors and students) • monitoring progress • complaints and appeals • examination
Sources of support	To familiarise supervisors with sources of support for research students	Sources of support for research students including: • counselling • visas • student union and societies • family support groups • ombudspersons

Table 3   Framework (cont.)

Dimension	Aim	Content
The supervisor and the student (i) pedagogy	To familiarise supervisors with key pedagogical concepts in supervision	Key concepts including: • Supervisory styles • Student needs • Aligning styles and to individual student needs • Maintaining alignment over the course of the research project • Supervising students in groups and cohort-building
The supervisor and the student (ii) diversity	To familiarise supervisors with the expectations and needs of an increasingly diverse student body	Supervising • international research students • non-traditional domestic students • part-time students • students studying at a distance • students from other disciplines
The supervisor and the student (iii) career development	To familiarise supervisors with issues around supporting students to develop careers	Supporting • academic career development • institutional support for careers inside and outside academia
Collective supervision	To familiarise supervisors with multiple supervision	Working effectively • in formal and informal supervisory teams • with supervisors from other disciplines • with supervisors from outside the academy
The supervisor and completion	To familiarise supervisors with issues around timely completion	Understanding • how to recruit students who are likely to complete on time • the causes of delay • strategies for supporting timely completion

In practice, virtually all institutions now offer or require development in relation to the regulatory framework, not least because this is a requirement of the section of the UK Quality Code for Higher Education (2012) dealing with research degrees and adherence is monitored by the Quality Assurance Agency leading to a published report. But it is clear that provision in many institutions does not go far beyond this and equip supervisors for their

roles. So, for example, Feather and McDermott (2014: 169) comment on a supervisor training course they had been required to attend and report that:

> ...although [it] was insightful and engaging, we did not learn much more than we already knew. The programme dealt mainly with the mechanics (form-filling, administration, recording of attendance, and other administrative tasks) of supervising PhDs, but not the realities of supervision: that is, the emotions, the mentoring of students (both domestic and international) and the softer issues of dealing with students and their needs. So this left both of us with anxieties and questions concerning the supervision of doctoral students; more so as every member of staff was expected to take on more doctoral students by the school and the university.

They concluded their paper (op. cit. 175) with a plea for those responsible to '...look at how they manage and train research supervisors'.

Resources to support the professional development of supervisors

If in looking, gaps are identified, the question which then arises is about how they might be filled. The purpose of this section is to identify some of the key resources which are currently available and which the author has found useful in supporting the professional development of supervisors.

Table 4 Resources for professional development

Dimension	Resource	Comment
The regulatory framework	Eley, A. and Murray, R. (2009) *How to be an Effective Supervisor*. Maidenhead, Open University Press.	Handbook for supervisors organised on the basis of the sections of the UK code of practice for research degrees and useful for linking practice and quality assurance
	Epigeum (undated) Research Integrity: UK and International Version. See http://www.epigeum.com/component/ programmes/?view=programme& programme=16. for details.	An e-learning programme on research integrity with separate versions for different disciplines which supervisors can follow in their own time
	Angel Productions (2014) The Professional Doctorate Video. See http://www.angelproductions.co.uk/ProfDoc.htm for details	A DVD highlighting the different motives for study of professional doctorates and the challenges for supervisors which can be used either in workshops or on-line

Table 4 Resources for professional development (cont.)

Dimension	Resource	Comment
Sources of support	Newcastle University (2012) Handbook for Research Students and Supervisors. Available on-line at http://www.ncl.ac.uk/students/progress/ assets/documents/FinalPGRHandbook2012 -Combined.pdf. Accessed 1st August 2014.	A very comprehensive handbook listing all of the sources of support for research students which can be used to support a workshop or for independent learning
The supervisor and the student (i) pedagogy	Brown, G. and Atkins. M. (1985) Effective Teaching in Higher Education. London, Methuen.	Very useful 'perceptions of supervisor roles' questionnaire which can be administered in workshops used to surface assumptions about pedagogy and promote discussion
	Lee, A. (2012) Successful Research Supervision. London, Routledge	Innovative account of approaches to supervision and sophisticated questionnaire which can be used by supervisors to identify their dominant approach
	Kamler, B. and Thompson, P. (2014) *Helping Doctoral Students Write: Pedagogies for supervision*. 2nd Ed. London, Routledge	Conceptualises the pedagogy of supervision in terms of supporting the writing process and provides numerous examples and practical suggestions
The supervisor and the student (ii) diversity	Robinson-Pant, A. and Magyar, A. (2010) International Research Students: reflections on PhD Supervision. University of East Anglia	DVD of interviews with international research students reflecting on their supervision and discussing their needs and offers useful prompts for discussion
	Vitae (2009) The part-time researcher programme. Cambridge, Vitae	DVD of interviews with part-time research students reflecting upon their experiences including supervision again with useful prompts for discussion

Table 4 Resources for professional development (cont.)

Dimension	Resource	Comment
The supervisor and the student (ii) diversity (cont.)	Premia (2014) Supervising Disabled Doctoral Researchers. Available on-line at https://www.vitae.ac.uk/doing-research/supervising-a- doctorate/supporting-disabled-doctoral-researchers/supporting-disabled-doctoral-researchers. Accessed 1st August 2014	Web site highlighting issues involved in supervising disabled students and how these may be overcome and contains numerous useful case studies for use in workhops
	Minocha, S. and Petre, M. (2012) Handbook of social media for researchers and supervisors. Available on-line at https://www.vitae.ac.uk/vitae-publications/reports/innovate-open-university-social-media-handbook-vitae-2012.pdf/view Accessed 1st August 2014.	Handbook for using social media to supervise students studying at a distance which can be used in workshops and /or as an on-line guide
The supervisor and the student (iii) career development	Vitae (2013) What do researchers do? Early career progression of doctoral graduates. Available on-line at https://www.vitae.ac.uk/vitae-publications/reports/what-do-researchers-do-early-career-progression-2013.pdf. Accessed 1st August 2014	Study of employability of doctoral graduates and useful for showing heterogeneity of the career trajectories of doctoral graduates
	Vitae (2010) Researcher Development Framework. Available on-line at https://www.vitae.ac.uk/researchers-professional-development/about-the-vitae-researcher-development-framework/developing-the-vitae-researcher-development-framework Accessed 1st August 2014	Outline of skills which researchers need to acquire to be effective at each stage of their careers, including the doctoral one, and demonstrates what skills students need to acquire
Collective supervision	University of Oxford (undated) Clarifying co-supervision expectations: issues to discuss. Available on-line at http://www.learning.ox.ac.uk/media/ global/wwwadminoxacuk/localsites/ oxfordlearninginstitute/documents/overview / rsv/Co-supervisionExpectations.pdf Accessed 1st August 2014	A list of potential issues in multiple supervision which can be discussed in a workshop or on-line to illuminate problems and solutions
The supervisor and completion	University of Oxford (2012) Problems: avoiding them and dealing with them. Available on-line at https://www.learning.ox.ac.uk/ supervision /supervisor/problems/. Accessed 1st August 2014.	Good advice about how to manage candidacies and to anticipate and deal with difficulties which can be read on-line with case studies that can be used in workshops

Overall, as the author has suggested elsewhere (Taylor and Kiley 2014), the best freely available web site for supporting the development of doctoral supervisors is probably that of the University of Oxford (https://www.learning.ox.ac.uk/supervision/) which contains a wealth of materials and further references. Additionally, if funding is available for a licence, it may be worth noting that the Epigeum consortium has produced an on-line 'Supervising doctoral students' e-learning programme which covers many of the areas above (and to which the author has contributed two units).

Conclusions

Historically, the conventional wisdom was that, as Rudd (1985: 79-80) put it, 'if one can do research then one can presumably supervise it', i.e. that being active in research was the necessary and sufficient attribute to be a successful supervisor. If this was ever true (which seems dubious given the low completion rates and long completion times in the 20th century), it is certainly not in the light of the changes over the past three decades or so. Supervisors now require to a very extensive range of general and specific attributes to fulfil their functions, and this needs to be reflected in the outcomes of professional development. Hopefully the present paper will encourage those responsible for professional development in institutions to review their provision and, where appropriate, extend it to fully meet the needs of supervisors.

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His specialism is research supervision, and he has facilitated workshops in many of the universities in the UK, Western Europe and the Far East. He has a number of publications in the field including (with Nigel Beasley) A Handbook for Doctoral Supervisors (RoutledgeFalmer 2005) and (with Margaret Kiley) Supervising Research Degree Candidates in H. Fry, S.Ketteridge and S. Marshall (eds.) A Handbook for Learning and Teaching (Routledge 2014). He has contributed two units to the recent 'Supervising Doctoral Students' e-learning programme (Epigeum 2014).

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