

Insights from practice

A handbook for supervisors of modern doctorate candidates



SuperProfDoc

Our reasons for researching practice in supervision of modern doctorates

Doctoral degrees are no longer simply a training ground for the next generation of academics. Different forms have evolved to encompass multi-and trans-disciplinary study by practitioners within their work context (Lester, 2004). The designation has also changed to include terms such as professional, industrial or practice-based PhDs or Doctorates (Fillery-Travis, 2012). For the rest of this handbook we will identify these doctorate types as the modern doctorates.

These developments in doctoral education are driven by the contribution to knowledge exchange that these degrees can make and how they are perceived as facilitating innovation and growth within diverse sectors. But supervision of modern doctorates is not fully codified although it requires a number of capabilities (academic and professional) that are recognised as being beyond those needed for conventional PhD supervision such as advising and facilitation (Boud & Costley, 2007).

Previous research on PhD programmes has largely focused on the capabilities required of candidates (Vitae, 2010) and only recently has the body of knowledge on supervisory practice started to grow significantly. However without effective supervision, delivery of the full benefits of these degrees to the host/sponsoring organisation (and the progression and attainment of the candidates) will be compromised. This project has sought to identify best practice in the supervision of modern doctorates and codify it within a framework supported by appropriate resources (professional development workshop, examiner list, handbook and social media) for European universities and companies to leverage the innovation and new knowledge these degrees can produce.

A significant number of the 745K doctoral candidates in Europe (Eurostat, 2011) are undertaking modern doctorates (e.g. 16% of all German doctorates). These degrees fulfil a variety of purposes, ranging from knowledge exchange between industry and academia, the development of higher levels of professional practice and individualised development programmes for practitioners of advanced standing. A significant driver in the growth of modern doctorates is their contribution to training individuals who are 'creative, critical and autonomous intellectual risk-takers capable of contributing to all sectors where deep rigorous analysis is required.' (ERA, 2010).

Doctoral level development is also increasingly needed for advanced levels of practice within the professions, in applied research, in policy making, in management and in many other leadership roles in society. As identified by the League of European Research Universities, 'if Europe is serious about its objective to become the most dynamic knowledge society in the world then strong support of doctoral education is vital' (2010). The collaborative involvement of all stakeholders and specifically the sponsoring organisation (if applicable), is central to the design of these doctorates: 'It is essential to ... build trust between universities and other sectors. Such trust is, for example, built on formalised but flexible research and research training collaboration between industry and higher education institutions, including joint research projects, industrial doctorates or similar schemes' (EUA 2010).

In modern doctorates there is a broadening in the focus and context of the research from a single discipline study within academia to addressing

multidisciplinary issues within the workplace itself. The corresponding shift in purpose, form, structure and context of the doctorate (Jackson, D., Darbyshire, P., Luck, L., & Peters, K (2009) poises some significant pedagogical issues that must be addressed by the supervisory team. Namely; the candidate's significant expertise and knowledge of the work context and environment beyond that of their supervisors; the applied nature of the required outcomes; the need for assessment standards to remain the same for all doctorate types; and the focus on multi- and trans-disciplinary research.

Therefore the supervision of such work-based research requires complex capabilities from the supervisor(s) as they seek to:

- address the diverse needs of a candidate operating at doctoral level within a work environment where their priorities are, in part at least, set by the needs of their organisation and work role; and
- supervise the creation of knowledge at doctoral level.

And yet there has to date been little study of these needs and no commonly accepted framework of practice for supervisors is currently available to draw upon.

In moving beyond this state of the art the project team won Erasmus funding for a project whose objectives were to:

- Access best practice in the supervision/advising of modern doctorates:
- Identify the host/sponsoring organisation's requirements from supervision (if any) and their contribution to it
- Develop a framework of practice (supported by training resources) suitable for modern doctorates
- Disseminate this best practice framework to all stakeholders
- Produce a sustainable impact on supervisory practice throughout the EU.

This handbook is one of the outputs for the project and its aim is to provide a quick reference guide for supervisors wishing to enhance their practice in the area of modern doctorates through accessing the rich experience of others in the field. We hope you find it accessible and stimulating and we welcome your comments on our website www.superprofdoc.eu where you will find additional resources such as our webinar and an annotated bibliography of research in the field.

Structure of this handbook

This handbook is one of the resources identified above as an output of the project. Specifically it describes the framework for practice that we have developed from our research into the work of supervisors from around Europe.

This framework is not a 'how-to manual' - that implies there is a one-size fits all approach and clearly this is not possible with the diversity of programmes and practice fields using modern doctorates. Instead we have extensively researched supervisory practice of modern doctorates in Europe and the US - with over 300 participating supervisors and candidates- and gathered together the elements of practice that supervisors have found to be important. We report here how they have applied and developed them.

Within this handbook you will find some of the issues that have arisen in practice from the broad range of programmes available and information about how others have addressed them. As a reader you can choose what is useful to your specific context and what is not. Some of the issues raised will not be pertinent to your work and others will be elements that perhaps you have not considered before. Whatever your response, we hope it will stimulate your reflection on your own modern doctorate programme or encourage you to engage in the supervision of one.

The guidelines given here constitute an awareness raising artefact which has been co-created and shaped by contributions from hundreds of supervisors and candidates. This artefact is one of a collection which is being made available to supervisors and candidates on the website. The one which you may wish to access as a close companion to this one, as well as to your own experience, is the annotated literature review on doctoral supervision that links to national and international bodies' guidelines on doctoral research.

Either way we hope this handbook will support the development of excellent research supervisory practice within the modern doctorate and help both established and novice supervisors to develop their practice.

Research on which this handbook is based

The research methodology used by the project was Appreciative Inquiry (AI) (Cooperrider, Whitney, Stavros & Fry, 2008) whereby all partners gathered and analysed the rich stories and examples of emerging supervisory practice in the field and the challenges/dilemmas faced by stakeholders (using the Discovery and Dream Stages of AI). A survey instrument was designed (answered by over 200 supervisors from across Europe) and complemented by semi-structured interviews (over 40) where supervisors were asked to explore their practice. The resulting narratives were analysed using thematic analysis for opportunities and barriers to learning and how these have been addressed within supervisory practice. These themes have been collated within a practice framework using the meta-model approach of Lane & Corrie, 2006 (Design Stage). This methodology is highly appropriate for exploring practice where achieving representation in a sample would be problematic as in this emerging field. For a fuller description of the methodology please see the research reports on the website www.superprofdoc.eu



Content of this handbook

This handbook is divided into a number of sections for ease of reference.

We start with a short identification of the literature to date - what is missing and what is present - so that we can see the evidence base from which we can currently draw to inform our practice.

Secondly we consider the operational elements that participants found useful - basic forms of the modern doctorate, who is taking it and why as well as general benchmarks for supervisory time, mode and type, etc. This section considers the candidate's journey from application through to supervision itself. It finishes with a consideration of the research environment and some examples from practice.

Following this, we go deeper into the work of the supervisory relationship and how it enables the candidate to develop their research-mindedness. We then consider the environment within which the relationship is enacted and how that relationship can support the work of supervision and provide a real benefit to the candidates both in terms of their specific work and in the enculturation and initialisation into their role as researcher.

Finally we consider some opportunities for the future, specifically how to engage more fully with work place supervisors through the experience of an industrial PhD. Throughout the manual there are short descriptions of various aspects of the work as identified in the 'real world' of supervision. There are also '**Points for discussion**' which are the moot points in doctoral development that we came across as we researched. Our research could not address them all and so we offer them to you as points for reflection and consideration when you are designing your own programme or considering your next validation event.

We have drawn up some specific '**Examples from practice**' of how our own and others' modern doctorate programmes have addressed issues such as research training and recognition of prior learning. These are identified under the name of the HEI involved so you are aware of who has the experience and who to contact if you would like more information.

Members of the consortium

Annette Fillery-Travis - *University of Wales Trinity Saint David, UK*

Kate Maguire - *Middlesex University, UK*

Nico Pizzolatti - *Middlesex University, UK*

Linda Robinson - *previously University of Chester now independent consultant*

Andrew Lowley - *Trinity College, Dublin, IR*

Nora Stel, Patrick Mans and Jakomijn van Wijk - *Maastricht School of Management, NL*

Elena Prodi, Francesca Spererotti - *ADAPT, Italy*

Claudio Dobrinski, John Peacock - *Eurodoc*

Rosemary Taylor and Thomas Vitale - *University of Central Florida, US, as international observers, researchers, and benchmarking partners (non-funded)*

Evaluator: Dr Anne Lee



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1. What is the evidence base on supervisory practice for modern doctorates?

The following section contains two elements - the first is a review of the literature across the general themes that emerged in our research. The second is a section looking specifically at the relational aspects of pedagogy as this emerged as significant in the research.

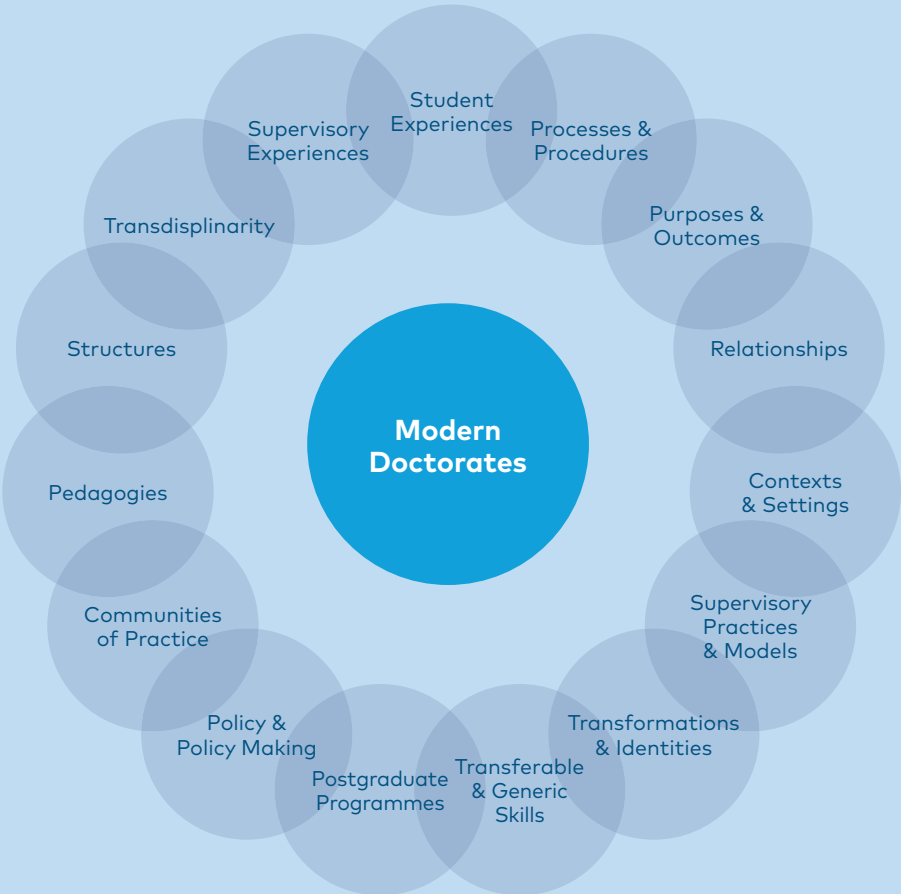
General review

Although it can be hazardous to make generalisations, it would not however seem too uncontentious to argue that there has been over the past 20 years a rapidly "expanding universe" of literature regarding doctoral education. This part of the project accumulated approximately 572 separate pieces of literature, most of which fell into two quite distinct categories: 1) academic critique and commentary, found in peer reviewed journals or texts and 2) an array of policy orientated commentaries, evaluations and proclamations produced by supranational organisations such as OECD, the EUA, the EU, the EC and UNESCO, as well as national state (e.g. funding and regulatory bodies), non-state agencies (e.g. UK Council for Graduate Education) and individual institutions¹.

The increased volume of material is arguably a product of the changing (as well as changed) perceptions, expectations and purpose of the doctorate as both an educative process and mode of accreditation. Needless to say, any attempt to form a narrative around and with this literature can only be selective and partial. Our intention in this short overview is to highlight what we see as some of the key themes or clusters of concerns or ideas which have connections back to the data generated for this handbook. However, this caveat notwithstanding, Figure 1 is a simple graphical representation of the themes which we identified and organised the literature around.

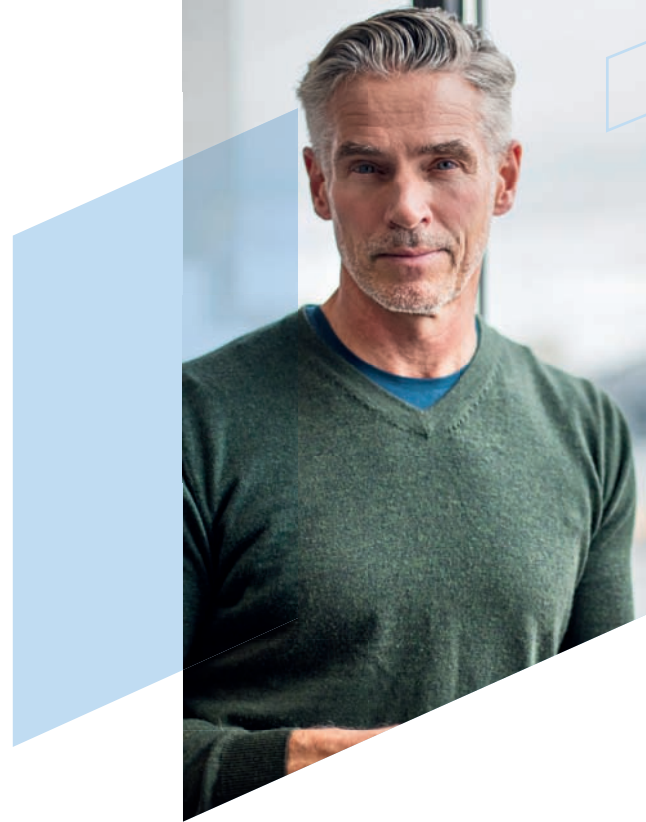
¹ Please note approximately 70% of the literature came from academic sources.

Figure 1 | Themes arising from literature review



Suffice to say, any systematic literature review and the clustering which occurs within this process generates both horizontal and vertical categories. In short, most of the themes we constructed also had a number of associated and in some instances, overlapping sub-themes, which we would argue is indicative of the arboreal nature of doctoral education. It is also a truism, that many of the themes are both interconnected as well as overlapping. For instance 'relationships' cannot easily be disentangled from 'communities of practice' as the latter is predicted on the former, and the notion of 'context' permeates all facets of doctoral education. More specifically in relation to supervisory practice per se, some of these themes are more proximal and others quite distant, but nonetheless all of them form part of a complex normative and descriptive narrative. We would argue that doctoral supervision, as evidenced by the extensive literature, is multilayered and subject to a myriad of forces and factors (cultural, biographical, methodological, pedagogical, epistemological, financial, political, structural, institutional, axiological to name but a few), which construct (as well as deconstruct) it as both a process and product.

As we alluded to in the introduction, the policy context has been a significant factor in broadening out the purpose and role of the doctorate and with it doctoral education. The most common, as well as most established motifs within much of the literature, irrespective of its origin (academic or non-academic, advocate or critic), can be distilled down into three core and interconnected arguments. Firstly, the doctorate cannot now be seen as a form of "apprenticeship" leading to an academic post, but needs to be seen as either preparation for a career elsewhere, or equally importantly, a mode of career development. In the case of the latter, we need to be mindful that undertaking a doctorate is not just the prerogative of newly minted graduates or those at the early stage of their careers. Indeed, there are a cohort of doctoral students whose characteristics, intentions and requirements are quite different from those on a linear career trajectory (refs). This heterogeneous group tends to get overlooked in much of the policy literature unless it relates to specific professions and/or associated named degrees (e.g. HEFCE, 2016). Nonetheless, the growth in the number of doctoral students and graduates and the changing structures of higher education systems



vis-a-vis employment practices and increasingly precarious career progression routes have altered patterns of 'supply and demand' for the very products of the system (see Neuman and Tann, 2011; McAlpine and Amumsden, 2014; Kogan, 2007; Ackerland, 2006, 2007; Altbach and Boyer, 1996; Auriol, Misu and Freeman, 2013; Cantwell, 2011; Vitae, 2013). However, the expansion in doctoral graduates and the relative decline in academic career opportunities has also been the focus of concern. Here we find a significant policy inflected literature regarding the necessity to develop an array of meaningful post-doctoral career pathways that are not predicated on solely working in academia (see EUA, 2005, 2009, 2010; OECD, 1998, 2012, 2016; ACOLA, 2012, 2016; Edge and Munro, 2016); CGE, 2012; Wilson, 2012). What makes this debate highly pertinent from a supervision perspective, is that attention has focused not only on where doctoral graduates "end up" and equivalent concerns about labour market conditions (OECD 2016 p246), but the role the higher education institution plays in determining (to whatever degree that may be) their trajectory. In turn, this has generated a perceived necessity to embed into doctoral education policy and practices notions of 'employability'. Thus there is a shifting of responsibility for stimulating "labour market activation" and "mobility" away from just the individual student and onto the institution. This in itself implies that institutions need to be much more cognisant of labour market trends and capacities (academic and non-academic) and therefore adjust their own practices accordingly to ensure a smoother fit between these two domains.

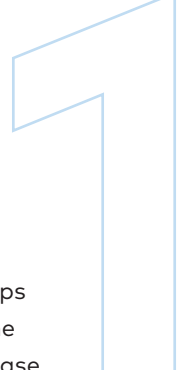
1. What is the evidence base on supervisory practice for modern doctorates?

Secondly, the doctorate is deemed to be too narrow in relation to its objectives i.e. the development of epistemological and methodological expertise only. Whereas traditionally, this would have been seen as the *raison d'être* of doctoral education, it is now only part of the cluster of skills, knowledge and attributes which are seen as essential for successful completion and career development. What are required are a more expansive set of outcomes more suited to the needs of the demands of 'knowledge economy' in terms of not only the generation of knowledge, but also its organisation, management and diffusion. Being a skilled and competent researcher, whilst being necessary, is most definitely not sufficient in terms of 'doctorateness'. For example, of the seven descriptors used by the UK Quality Assurance Agency (2011) one of them explicitly states that award 'holders... will have? the qualities and transferable skills necessary for employment requiring the exercise of personal responsibility. . . in professional or equivalent environments." (QAA, 2011, p32). Thus it is not enough for a graduate to represent embodied knowledge through their possession of institutional capital, but be capable of applying and articulating that knowledge across a range of activities and contexts. In short the policy emphasis is upon the instrumentality of doctoral knowledge.

Closely linked to the third motif, is the need for a much wider skills base than currently provided within doctoral education. Again, this is also largely bound up within a human capital discourse and relationship with the so-called "knowledge economy" and more specifically, a whole raft of cognate dimensions which are considered necessary for an economy predicated on the need for advanced skills embodied within a doctoral graduate. The transferable and generic skills debate, which we discuss below, is one the key areas which can take on a distinctive shape(s) and form(s) which allows itself to be easily 'captured' by the discourse of learning outcomes and hence become the institutional 'face' of doctoral education. However, how this is institutionalized and instantiated is highly contested as well as resisted and for some is one of the critical spaces in which both meaning and control of doctoral education is battled over.

These three notions are simultaneously bundled together as being both a rationale for change in doctoral education, as much as they are an explanation of that process. That these three notions have become instantiated in international, national as well as local and important policy contexts is also well-established within the literature. This degree of policy convergence as well as homogeneity of discourse around for example "employability", "flexibility", "adaptability", "critical thinking", "innovation and creativity" are highly familiar to academics. The extent to which this discourse has permeated every day supervisory practice is of course a moot point. Indeed, the ambiguity of such terms and the mediating contexts in which they are placed, make it problematic to assess the degree to which they affect or are embedded within practice.

A further point which should be noted, concerns the increase in overt intervention, regulation and institutionalisation of doctoral supervision and research training in particular. As Enders (2004) argues, the role of state policy and associated agencies such as research funding bodies, have gone from facilitating and supporting doctoral education from a more distal way via research grants and scholarships, to much more interventionist regimes. For example, the accreditation by funding bodies of research training programmes operated by institutions as a prerequisite for scholarship funding. This he observes has developed in conjunction with "changed funding regimes and the increased use of accountability mechanisms via KPIs... [The] developing critical mass in terms of centres of excellence... The use of competitive funding distributed research money... One of the consequences of this has been to align doctoral training within so-called centres of excellence". (P425) As pointed out by Clarke and Lunt (2014), regulatory frameworks have become a prominent feature of doctoral education in relation to the definition, construction and maintenance of quality. Axiomatic to these frameworks are attempts to set out descriptors, competencies and outcomes which are combined to construct an ideal type of 'doctorateness'. The development of frameworks such as Bologna with its three-cycles (undergraduate, masters and doctoral), the UK Quality Assurance Agency (eight levels) the European Qualifications Framework (comprising eight levels; 8 = doctorate)², the Irish National Qualifications Framework (ten levels;



10 = doctorate). What this creates is not only a system for regulating qualifications, but more importantly and from not only a European perspective, a tool to assist graduate mobility. The descriptors and related outcomes, become a form of currency in which organisations in different national contexts grant recognition to the graduate by virtue of having earned a qualification (and irrespective of the conditions under which it was gained) which possess equivalence. For national and supranational organisations such as the EC and the OECD, who have championed the concept of researcher mobility, this is a critical development. The impact on doctoral education is one which percolates and permeates its way into practice through creating a much more structured and hence predictable (and controllable?) and infinitely less ad hoc conditions under which it occurs.



Lastly, it is worth stating that a further and perhaps major factor which is a consequence of much of the changes alluded to above, is undoubtedly the increase over the past 25 years in the number of doctoral students. Again, this is widely referenced across the literature, and seen to parallel the expansionism which had occurred in the undergraduate population. Although as a proportion of new graduates, doctoral graduates is relatively small at 6% (OECD, 2011) the absolute numbers show a different picture. According to the OECD (2016) in 1998 there were 158,082 doctoral graduations spread across 42 countries, this increased by 132,072 to 290,154 in 2014. More specifically the United States (the largest producer of graduates) in 1998 accounted for 45,876 conferrals and in 2014 this was 67,449, in United Kingdom 1998 this was 10,993 and in 2014 had increased to 25,020, Norway doubled its output from 700 to 1442 the same period and Denmark went from 467 to 2,182. Although, there are quite different rates of increase across OECD countries and certainly not as dramatic as Denmark or the US and the UK, the trend is nonetheless upwards in most cases. In terms of field of study, the OECD observe that "40% of the doctorates in the OECD area graduate in sciences, engineering and mathematics... And increases to 58% [if] health are included" (OECD 2016, P147). However, despite this increase the same report also voiced concerns about there are the capacity of job markets (commercial and non-commercial) to adequately absorb all of these doctoral graduates. That for some graduates the 'promise' of meaningful career pathways outside of academia may well, in the long run, prove to be as elusive as those in academia as there opens up dual labour markets.

² It is interesting to note that most EU countries operate their own frameworks, but which parallel that of the EQF.

Transformative learning and doctoral education

Transformative learning: Definitions; descriptors

There is evidence that students' may enjoy a deep, transformative learning (TL) experience as part of their doctoral studies, and that this may be as a result of intentional (Ginsberg et al, 2014) as well as unintentional outcomes of their training (Stevens-Long et al, 2014). Hodge (2014, p.165) defines TL as '...a broadly humanistic theory that conceptualizes a process by which individuals become aware of limiting assumptions, gaining autonomy and the power to determine their own actions as they do so.' Similarly, Walters (2008, p.118) refers to TL as '... a process of adopting greater subjectivity, of becoming more attuned to the personal 'self' and that of others.' Elsewhere, Stevens-Long, Shapiro & McLintock (2012) suggest that given the often-muddled use of the term, it is necessary to distinguish between the terms transformation, transformative learning and transformative education as found in the literature on the matter. According to Stevens-Long et al (2012, pp.183-184) transformation as an outcome of learning refers to a deep and lasting change, equivalent to what some people term a developmental shift or a change in worldview, while transformative learning refers to '...the intra-psychic and/or behavioral process of a learner involved in a transformative experiences: it is about what the learner does, feels, and experiences'. On the other hand, *transformative education*:

...is a term best used to refer to a planned educational program, experience, intervention, or set of pedagogical practices that are designed to enable people to experience transformative learning (Stevens-Long et al, 2012, p.184)

Whatever the particular definition or understandings deployed, the primary function of TL remains helping learners to achieve, through a process of critical reflection and self-reflection, a deep lasting personal change, rather than merely acquiring a new set of dispositions or skills for the workplace (Dirx, 2012). As Dirx (2012a, p.400) points out:

...transformative learning seems little more than another way to talk about learning and change. Gaining more information, learning a new skill, developing a new or different attitude, or even acquiring a new role or occupation may reflect effective learning experiences, but they do not alone indicate the kind of experiences intended by serious scholars of transformative learning

Transformative learning: key theories and concepts

While there has been relatively little theory or research conducted on transformative learning through doctoral education, the concept has long occupied scholars in the field of adult and community education (notably: Brookfield, 2005; Merriam, Caffarella & Baumgartner, 2007), and to a lesser extent in higher education (in particular Taylor, 2009). Most prominent is Mezirow (1978; 1991; 2000) who developed a theory of adult learning grounded in cognitive and developmental psychology. Mezirow refers to 'perspective transformation' as process that '...moves the individual towards a more inclusive, differentiated permeable (open to other points of view), and integrated meaning perspective, the validity of which has been established through rationale discourse' (1991, p.7). Although individually we may create new meaning from our life experiences, a shift in meaning perspective comes from the tension that is created by encountering different perspectives and ways of being that cause us to question what we thought was reality (Southern, 2014). Put simply, as we construct and reconstruct the meaning of our life experiences, we become more conscious (Dirx, 2012a). Taylor (2008) notes the ubiquitous acceptance of Mezirow's 'psychocritical' view of TL theory in the literature on adult learning, and that this has '...often led to an uncontested assumption that there is a singular conception of transformative learning' (p.7). According to Taylor (2008) there exist a variety of alternative conceptions of TL theory that are often overlooked in the (Mezirow's) dominant theory of transformation, including the role of spirituality, positionality, neurobiology as well as emancipatory learning. For Taylor '...the exciting part of this diversity of theoretical perspectives is that it

has the potential to offer a more diverse interpretation of transformative learning and have significant implications for practice' (2008, p.7).

One such alternative is to be found in the work of Freire (1970, 1973) and others associated with radical or critical perspectives in education (notably: Dardar, Baltodano and Torres, 2003). For Freire, our efforts as educators should be directed towards helping learners to achieve a deeper, critical consciousness (conscientization) of their world, along with the capacity to change that world. Conscientization is defined as:

...the process through which men [sic] not as recipients, but as knowing subjects, achieve a deepening awareness of both the socio-cultural reality that shapes their lives and of their capacity to transform that reality. (Freire, 1973, p. 27).

In this way, TL is concerned with both individual and social emancipation for achieving social justice aims as the intended outcome of learning. Other approaches to TL include a Jungian perspective to be found in the efforts of Boyd and others (Boyd, 1991b; Boyd & Myers, 1988; Dirkx, 2012b). Briefly, the focus here shifts from the rational approaches offered by Freire (1970) and Mezirow (1978), to how the unconscious emotional dynamics of individuals and groups can both facilitate as well as obstruct these meaning-making processes.

TL and doctoral education.

While there remains little research concerning TL in the context of doctoral education, the available evidence suggests that students' may experience TL as an intentional or unintentional outcome of their studies. In their survey of (n=59) PhD graduates, Stevens-Long et al (2012) found that doctoral students experienced a wide array of learning outcomes beyond the traditional emphasis on intellectual development. These outcomes included: '...advanced stages of cognitive development, new capacity for emotional experience and conceptions of self, and more reflective professional practice' (2012, p.192). Stevens-Long et al (2012) also report a heightened sense awareness of gender, racial, and economic inequality among their

participants, along with a commitment to act on that insight, thus mirroring the kind of transformative processes described by Freire (1973) in this conscientization thesis. Meanwhile in his investigation of international doctoral students' (n=421) experiences, Kumi-Yeboah found that the majority (75%) of his participants reported TL as a result of both educational and non-educational experiences during their studies, and that the support from supervisors and other academic staff was key to fostering this transformation in the educational realm. A rare example of a planned approach to TL in doctoral education is Ginsberg et al (2014), which investigated the experiences of education doctoral (ED) candidates undertaking an instructional leadership module. Key to this approach was offering the students' the opportunity for repeated encounters with challenging circumstances that did not fit with '... their habituated ways of understanding their work'. Echoing Mezirow's description of 'disorienting dilemmas', Ginsberg et al, (2014) suggest that these "pebbles in the shoe" are the start of transformative learning. According to Ginsberg et al:

This course sequence drew students into such situations and scaffolded their movement through these times of discomfort into a new synthesis of leadership ideas and practice. Furthermore, the learning experiences set in motion a transformative process around the content that is arguably central to instructional leadership work in contemporary schools and school systems (2014, p.190).

While this short review does not provide sufficient evidence to support or refute the case of TL in doctoral education, this does hint at a broader range of outcomes for students who may experience a more meaningful, deeper learning experience other than the intellectual development normally associated with DR programmes, or indeed as proscribed in the narrow TS agenda. What is more certain is the need for further research that captures, more fully, the particular outcomes of a process that consumes vast time and resources.

Transferable Skills

Definitions; Descriptors

Sometimes referred to 'soft', 'key' or 'generic' skills, transferable skills (TS) are typically described in terms of the personal and professional competencies that can be transferred from one workplace situation to another. A simple definition is provided by the European Science Foundation (ESF) who describe TS as:

...skills learned in one context (in this case research) that are useful in another (for example, future employment, whether in research, business, etc.) They can serve as a bridge from study to work and from one career to another, as they enable subject and research related skills to be applied and effectively developed in different work environments (ESF, 2009, p.47.)

TS descriptors can be seen to vary in scale and scope; for example the ESF (2009) defines six broad skills categories and nineteen specific skills. However, by far the most comprehensive descriptor is the Joint Skills Statement (JSS) issued by the UK-Research Council (2001), later revised and updated by the RCUK-Vitae as the Researcher Development Framework (2010). This last TS framework contains no less than 63 skills descriptors in four separate domains (appended). More recent descriptors have reflected a closer alignment between research output, innovation and national competitiveness, and the inclusion of entrepreneurial skills as well as skills connected with commercialisation and transfer of knowledge (OECD, 2012).

TS: Background

The literature relating to TS can be placed in the context of wider employability discourses and debates relating to HDR (higher degree research) programmes. These debates are in turn driven by a number of concerns, including: the expanding population of PGR students needing to find work outside of academia (Kehm, 2007); employer concerns about the quality and work-readiness of PGR students (Metcalf and Gray, 2006); the place of research (and universities more generally) in of meeting the needs of the

knowledge economy (Gilbert et al, 2007); as well as more recent efforts to link research output more closely with global economic competitiveness (OECD, 2012). Halse & Mowbray (2011) suggest that a further driver of TS in HDR programmes is the growing preoccupation in higher education policy with the performance, outcomes and returns on public investment in research. While there would seem to be many push factors for including TS in HDR training, it is certainly the case that PGR students are increasingly forced look beyond academia for secure and stable employment once they have completed their studies (Auriol, et al, 2010; Diamond et al, 2014; Neumann and Khim Tan, 2011). For example, in their UK-based investigation of doctoral graduate (n=268) destinations, Diamond et al (2014) found that only 50 per cent of respondents found work in HE after graduation, with doctorates in arts and humanities (62 per cent) and social sciences (65 per cent) most likely to be working in this sector. Diamond et al (2014) report that the proportion of doctoral graduates who remain working as researchers in HE appears to have declined over time and that HE researchers appear least satisfied with their role, showing particular concern over job security and career prospects.



TS: Policy developments

Cumming (2010) suggests that in Australia and the UK context the skills debate in research education has been driven mainly by employers and governments, with universities moving to implement more structured approaches to the development of employability and academic skills. A closer examination of policy initiatives in the UK would seem to support Cumming's (2010) assertion that the factors external to HE have driven the skills agenda, at least as far as developments this jurisdiction goes. It is certainly the case that UK policymakers have been to the fore in pushing the concept of TS in HDR programmes, most notably via the publication of the aforementioned Joint Skills Statement (2001) and the influential Robbins' Report (2002). Briefly, Robbins and his team recommended that the training elements of a PhD needed to be strengthened considerably, and that they include the provision of at least two weeks' dedicated training a year, principally in TS (2002, 4.2). This intervention led directly to the allocation of £29.8M over a three-year period to the RCUK to implement additional TS training for Research Council-funded PhD students and research staff. Since Robbins, there has been a concerted attempt by UK-HEIs to develop enhanced TS training with a view to better preparing doctoral graduates for employment in industry and the public sector, as well as in academia (RCUK, 2011; Diamond et al, 2014). To this end, £120 million of funding has been allocated by the RCUK in research careers and training in TS. The later Hodge Review (RCUK, 2010) suggested that this investment had enabled the UK to lead the way internationally in the development of TS for researchers and recommended that funding and initiatives need to continue to maintain and reinforce this progress.

At supra-national level, both the EUA and ESF have both been active in promoting a formal response to TS, for example through the Bologna Process and the 'Salzberg Agreement' (2005), though there does appear to be significant variations in terms of the priorities given by both governments and individual HEIs in response to the issue (OECD, 2012). The Salzburg declaration recommended that training in TS should become an integral part of all doctoral programmes in order to meet challenges and needs of the global labour market and that HEIs needed to assume responsibility for implementing this (EUA,

2005). The EUA later established the Council for Doctorate Education (CDE) in 2008 to acknowledge the significant changes made across Europe in the delivery of PhD programmes. The general direction of the CDE is towards a structured approach and TS as evidenced in the EUA 'Salzburg II Recommendations' for improving doctoral education in Europe' (EUA, 2010). This reaffirmed principles in the Salzburg I, but with more onus on HEIs to support researchers in TS and post-doctoral careers.

TS: Studies; concerns

Despite the push towards embedding TS in HDR programmes, a scoping of the relevant literature reveals a dearth of applied research examining same. This includes studies following an experiential or 'learning by doing' approach (Disney et al, 2013; Costello et al, 2014.) In their investigation of a group of DR student's planning and implementing an academic conference, Disney et al (2013) found that the process of organising a conference was useful for developing skills outside the research process itself but which are valuable both within and outside academia. Other researchers have set to document the skills that students gain over the regular course of their HDR training with similar results (Cryer, 1998; Mowbray and Halse, 2010; Durette et al, 2016). In his single-case study Cryer (1998) reports on a one-year programme designed to help students to recognise and identify the skills that they already have or that they were developing as an integral part of their research degree work. Cryer (1998) identified a broad range of competencies, including: Knowledge, Technical and 'Meta' Competencies as well as key personal dispositions and behaviours. Other studies have investigated how TS might be developed as part of a specific, 'add-on' TS training provision (Aplay & Walsh, 2008; Wall & Welsch, 2013). Aplay & Walsh (2008) record that after attending the a TS course, were statistically significant increases in the participants' perceived levels of skill in four core TS areas, and that a more positive attitude to skills development courses overall was demonstrated.

While these studies generally report positive outcomes for students, there remain concerns about an approach that is considered by some commentators to be reductive (Craswell, 2007), de-contextualised (Blaj-Ward, 2012), overly vague (Attwood, 2010) or lacking definition or proper conceptualisation (Gilbert et al, 2007;

1. What is the evidence base on supervisory practice for modern doctorates?

Mowbray and Halse, 2010). Gilbert et al (2007, p.386) summarise many of the concerns about a common approach to TS given the diverse nature HDR research projects as well as well as individual student need:

Which skills and attributes should be regarded as a minimal requirement and which optional? Are there levels of differentiation which need to be acknowledged, with different skills and attributes required, say, for social as distinct from natural scientists, or professional as distinct from more basic research degrees? Which skills and attributes need to be achieved before entry to doctoral degrees, and which are appropriate for development during the doctorate itself or better left until after graduation?

Gilbert et al (2007) suggest that, '...if doctoral degrees intend to develop graduates with broad-ranging skills, sensitivities, predispositions and other personal qualities, then these need to be made clear, and the differences among them acknowledged' (p.386). Elsewhere, Mowbray and Halse (2010) question the very rationale for a TS approach '...when it difficult to predict, with any great certainty, what skills future employers may require or how national and global developments will affect future labour markets (p.654). Mowbray and Halse (2010) propose an alternative framework for skills development based, not on skills, but on intellectual virtues:

...the acquisition of intellectual virtues moves beyond the limited economic agendas of the skills push [and] shifts the lens from the instrumental production of the skilled PhD graduate to the progressive building of virtuous individuals who contribute to society through their productive actions (2010, p.653).

Now moving to consider the relational aspects of the pedagogy:

A distinctive relationality? The modern doctorate and its pedagogical relationships

As research focused upon practice could be considered a part of the distinctive nature of a modern doctorate, so the pedagogical consequences and their impact upon the supervisory learning relationships, may also carry distinctive weight and significance. These pedagogical relationships are the vehicle that drives the purpose of the research, transformative learning. Albeit not directly expounded in the literature on modern doctorates, the learning theories of, e.g. Goleman, Boyatzis and McKee(2003), and Mezirow(2000) remain pertinent. These are exemplified in the research of Burgess, Weller and Wellington (2011) that speaks of transformation beyond the candidate's organisation of himself.

Practitioner researchers are experts in their organisational fields, having an expertise that academic supervisors may not have, or indeed, may not need to have, as what they bring is expertise in research (Fillery-Travis, 2014) and a habitus of critical thinking and reflexive practice. Traditional balances of power teacher /pupil, guru/ disciple are unsuitable to meet the purpose of the research as one of transforming practice. For example, supervisors may find themselves challenged by candidates who may be older, experienced and in senior positions within their organisation, Morley (2005), Bennett and Graham (2008), Lester (2004), Green (2005). Likewise, candidates may feel excluded from the secret garden of academia in their need for an accessible common language and understanding of the power dynamic and in the co-creation and exchange of knowledge transfer, Malfroy (2004), Fillery-Travis (2014).

A further distinguishing feature of modern doctorates is to note that they may be structured and co-created on a cohort model that enables peer supervision between candidates sharing in the process of being and becoming researchers from a perspective of generic learning about research. In doctorate context. Alongside this common interest and need, candidates have specialised knowledge of their diverse

organisational fields. The psycho dynamic of the cohort offers an opportunity for the creation of a community of practice as members are motivated by a mutual passion for learning and sharing of good practice(Wenger,1992) where authority comes from socialite rather than personal or external agency (Neumann 2005). The work of Sanders, Kurt, Smith Fulton and Curtis (2012) exemplify such theory in practice in a modern doctorate as the locus of power is socialised, generating reciprocity and the co -creation of knowledge not just in one to one supervision but across communities of practice. If this is indeed the case an appropriate pedagogy for modern doctorates is required, one that encourages reflexive and reflective practice through the adoption of a facilitative and coaching supervisory approach that enables the learning to become transformative.

Thus, high quality relationality, seen as imperative to the fulfilment of purpose, ought therefore to embody the highest levels of trust, confidence and rapport as candidates and supervisors engage in mutual learning as the candidate moves from dependence, to interdependence to independence as a research. Such professional learning relationships may also be considered to be value driven as they may demand openness of mind and heart, and even humility, in adopting the client centred approach of coaching, (Fillery-Travis, 2014).

This brings the discussion to the wider debates about purpose, role and function... what, why and for whom?

We now consider what our research adds to these issues.

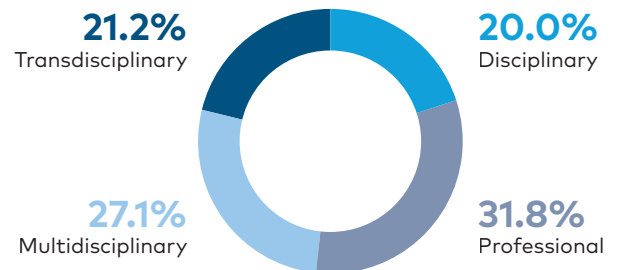


2. The current provision of modern doctorates across Europe

Our survey accessed supervisors from 18 countries across Europe and the ascension countries.

All were asked to identify the programme type they worked within and the PhD dominated the responses (40.7% of respondents).

At first sight this may seem strange but it is interesting to note that all the supervisors were asked to self-select themselves into the survey IF some element of the supervisory practice occurred outside academia. The high level of respondents from PhD programmes indicate either the supervisors do not read the instructions (possible!) or there is a real trend to the PhD becoming more practice focused. The results identified there is a wide range of modern doctorates available (see table1 for examples from the UK) and a number identified closely with a particular discipline as opposed to a profession. At first sight This seems a counter-intuitive position given that these doctoral programmes seek to be associated with professional practice. It is worth pausing and reflecting upon whether this is a necessity of the programme type or just an operational requirement.



Point for discussion

Should modern doctorates be aligned to specific University Schools? What are the criteria that define whether alignment is necessary or not? Are their modern doctorates co-produced with professions or organisations and academia? What benefits or opportunities would that bring?

Example modern doctorates

DArch	Doctorate of Architecture
ThD	Theology Doctorate
DBEnv	Doctorate of the Built Environment
DBA	Doctor of Business Administration
DClinPsy	Doctor of Clinical Psychology
EdD	Doctor of Education
EngD	Engineering Doctorate
DCrimJ	Doctorate of Criminal Justice
DPharm	Doctorate of Pharmacy
DSocSci	Doctorate of Social Science
DProf	Doctorate in Professional Studies

292 listed in the UK

Our respondents identified that the development of these programmes was initiated in general by the academic faculty and occurred within the discipline home itself i.e. the University or School. The structure of University provision requires a programme to have a 'home' and that 'home' is usually within a 'School'. And yet when asked many of them identified the very distinct multidisciplinary and transdisciplinary nature of the work! The two modern doctorates NOT identified with a specific school are both housed within Work Based Learning Institutes and as such are concerned with learning within the work context.



General form and content

The vast majority of the programmes located in the disciplinary schools have some kind of taught element beyond that required for research training. These can be in the form of 'advanced practice' elements and/or higher competencies usually taken in the first year as a precursor to the research phase of the programme itself. They are generally offered at Master's degree level as is the research methods training so in some ways the first part of the doctorate can be seen as a continuation of the professional development of the learners after their Master's degree and before they embark on developing their research proposal and research competency. It is interesting to see that for some programmes this development of the technical aspects of practice (use of established knowledge/competency development) is offered at Doctoral level. This raises some real points to consider if you are thinking of designing a doctoral programme:

Point for discussion

The Master's degree was normally seen as providing higher level specialised development for practitioners or developing researchers. Until the modern doctorate was developed first with the EdDs and now the DBAs etc., there was no doctoral level development of competency or technical ability for professionals in the field apart from research development. Now we have 'fit for practice' doctorates - predominantly in the psychology arena - which require both technical development of practice and research. Can practice without research ever be at doctoral level? The inclusion of doctoral level professional competency development has arisen without much debate but is it 'real' doctoral development? Can there be doctoral level provision which develops no new knowledge? Does the practice field for your own modern doctorate require that level of development?

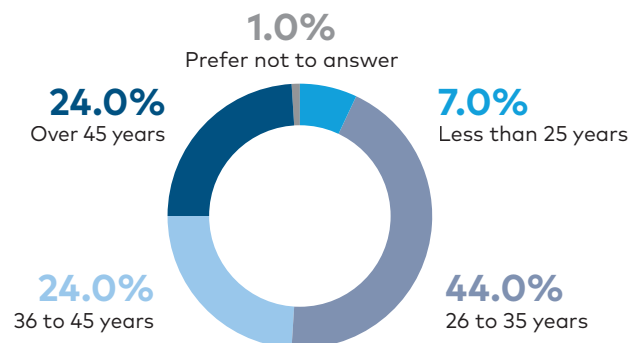
The programmes that have no such taught elements are few and far between and in the past have considered themselves 'generic' as in providing a focus on the professional practice itself as a field of study and not the disciplinary elements of the work. They admitted candidates from all professional fields and required no prescribed professional level other than consistent high-level work in the chosen field. To date there are only two Institutions offering this type of programme: Middlesex University (UK) and University of Wales Trinity Saint David (UK), both using a similar design. Recently, Middlesex has recast their doctorate in terms of transdisciplinarity whilst still holding open the opportunity for enrolment to all professional fields.

Who does a modern doctorate and why?

The age range of the candidates who answered our survey was wide and there was a distinct clustering of PhDs at the 26-35 age range but then at 36 and over the EdD, DBAs and Prof Docs were dominant. There is some anecdotal evidence that the generic/transdisciplinary programmes attract the older learners and that would seem reasonable given the more senior the professional the further they are away from the simple rule-following of initial or mainstream professional practice that requires little research. As they develop they become closer to the 'epistemic' or knowledge producing practice where professional work is very ambiguous environments.

Our survey was answered by candidates from health, business, science, technology, engineering and mathematics (STEM), education and legal backgrounds as well as the more diffuse professional fields such

Age range of doctorate candidates



as consultancy. The reasons why these candidates undertake what is a very arduous journey has been previously researched and are quite broad: obtaining the credential, enhanced credibility, promotion and a significant number has a motivation of developing their profession and share their expertise

Point for discussion

Are we clear as to how our provision fulfils these requirements from professionals? Is there greater opportunity for links with professional accreditation and professional bodies?

Induction and entry

All of these programmes are recruiting candidates who are within the workplace or seeking to work within one. As such the normal recruitment criteria for doctoral work (a high level of previous academic achievement) is not so relevant or indicative of potential. All of the participating programmes highlighted the need to recruit the 'right' candidates for their programme and took some time to get their recruitment process to identify a good fit with the candidate.

All entry procedures involved some kind of application process where a form was completed identifying past experience but also a 'personal' or 'project' statement was required. This was used to judge the level of written language, the cogency of argument and the appropriateness of the area of interest to the programme. Following on from receipt of this form the Programme Director would conduct interviews to explore these criteria in depth and assess whether the candidate was fully aware of how the programme is positioned in the spectrum of available programmes. It was clear that time spent on the interview and entry procedures was considered a good investment for both HEI and candidate. Achieving the right 'fit' of programme with candidate at the start was considered critical to good progression later. This is a point shared with PhDs and indeed anecdotal evidence suggests there is often a healthy interchange of potential candidates between PhDs and DProfs at this stage.

Once the candidate was enrolled several programmes took care to achieve some kind of 'levelling' process whereby those candidates who had already achieved significantly in their field could benefit from recognition of this work and those candidates that required greater help with research skills could access the support they needed. In the following examples from practice the way this is achieved in two HEIs is considered.



Examples from practice 1

Recognising prior Learning in practice-based doctorates Middlesex University UK

The Institute for Work Based Learning at Middlesex University has developed a transdisciplinary professional doctoral programme (DProf), whereby individuals from public, private and voluntary sectors can negotiate customized programmes with a focus on their own professional and organizational needs, in whichever field of professional practice. Candidates report gaining a deeper understanding of their own practice, impact on organizational development and the ability to bridge between professional and academic knowledge in their field.

As the DProf is postulated on the idea that professional practice embeds tacit knowledge that the candidate is then able to articulate during the doctoral study, the programme embeds a mechanism for the recognition of prior learning achieved in either academic or professional settings. This is of particular import to the student population of the DProf, who are usually composed of senior professionals, recognised in their field for their expertise, but who may lack formal academic education at higher level or have not previously engaged with scholarship. The DProf pushes the idea of articulating tacit knowledge further by adopting as one of the criteria for achieving the award the ability to review and appraise previous education and professional learning.

In the DProf, candidates can claim for up to 100 credits (out of a total of 540) for recognition of prior learning in two key areas: 'professional expertise' and 'research and development capabilities'. By taking up these options the candidates claim that they possess expertise accrued in their professional field and/or skills and abilities to conduct research and development that are equivalent to what a Masters graduate would have achieved. Crucially, they also demonstrate that this prior learning is relevant for the focus of their negotiated doctoral programme. For instance, a coach supervisor who wants to research a project in mentoring new coaches cannot claim credit for a ten-year experience managing the database of an IT centre. Recognition of prior learning based on Masters in a relevant field (a health manager will not be able to accredit a Master's

degree in French literature) requires a shorter rationale than 'uncertificated' prior learning based on experience. In the latter case, a portfolio of evidence is required to support the claim.

Claims are made in the fold of a taught module called 'Review of Learning' that culminates in a 5000 words essay, accompanied by the two shorter claims. This essay is a critical and reflective commentary on the professional learning, ethos and identity of the candidate. Influences, values, experiences, contexts are at the core of this investigation of learning which is meant to position practitioners as researchers in their own field of practice. In the Review of Learning and the RPL claims the candidates, by critical reflecting on practice, articulate in an academic submission the knowledge, often implicit, developed through experience.

While the bulk of the claims would usually be at Masters level (Level 7) the programme does offer the possibility to claim up to 120 credits at Doctoral level (Level 8), in this way reducing the size of the final doctoral project. The recognition of experiential learning at Level 8 is underpinned by the same principle behind the RPL at Level 7. It is a recognition that candidates may have already done work in their professional field that is equivalent to doctoral level in terms of contribution to knowledge. The claim (up to 5,000 words), however, is particularly challenging as it consists of a critical commentary on the work undertaken that identifies its depth and scope, which must contain a level of reflection, ethical understanding and awareness of context matching doctoral level work. Overall, the instrument of RPL benefits a practice-based doctorate as it enhances the candidates' capacity to understand their own practice and articulate experiential learning in a way that meets the quality criteria of a Higher Education Institution. More broadly, it provides the candidate the opportunity to go beyond disciplinary boundaries and the codified knowledge controlled by academia by recognising the research abilities and contribution to knowledge are also fostered at work.

Examples from practice 2

Research training

The Maastricht School of Management (MSM)

The Maastricht School of Management (MSM) offers Europe's largest Doctorate of Business Administration (DBA) program, with over 200 registered candidates from 38 different countries. It has awarded the DBA degree, accredited by AMBA, ACBSP and IACBE, since 1995 and was the runner up in DBAstudies.com's global ranking of DBA programs. As with other professional doctorates, one of the program's major challenges is helping prospective DBA candidates bridge the divide between the 'real' world of business and management and that of academia. DBA students have often spent a significant time away from research and may struggle, as one candidate called it, 'to get the academic muscles working again.' For this reason, MSM developed its comprehensive Research Methods and Skills (RMS) course that it has now been implementing for several years. The course has the aim to teach specifically those research competencies and skills that are essential for the effective conduct and understanding of not just research as such, but evidence-based decision-making - whether in business, government or civil society. The course consists of five modules that take candidates through the entire empirical research circle (dealing with research design, qualitative research methods, quantitative data collection, quantitative data analysis and proposal writing respectively). It culminates in a full-fledged DBA research proposal that is defended in an official ceremony. As such, the course standardizes the education of methodology within the DBA, taking it beyond the individual responsibility of each supervisor, and enables professionals to kick-start their own research project by offering the necessary academic skills and a scientific mindset through a learning-by-doing approach. The RMS course thereby serves three functions. First, it has the dual aim to help potential DBA candidates make the intellectual leap from business practice to business research and uphold the program's high standards by ensuring a rigorous admission procedure. Before being admitted into the RMS course, would-be participants are evaluated based on a preliminary research statement, an academic competency assessment and an accompanying application package (comprising, among others, a

resume and proof of English proficiency, relevant work experience and scientific credentials). Admission into the DBA program, subsequently, is explicitly conditional upon passing the RMS course. Only those candidates that pass all five modules (which means every individual assignment must be graded at least 5.5 out of 10 and the proposal must be successfully defended) and whose academic competencies are positively evaluated by the lecturing team are admitted into the MPhil stage of the DBA program (in which they further develop their research proposal which is in turn to be defended successfully before candidates can commence with the empirical DBA research).

A second function of the RMS course is that it helps turn the diverse professional and academic background of doctoral candidates, a feature that characterizes most professional doctorates, from a possible liability into an asset. By bringing candidates from various academic disciplines and fields of expertise together and adopting an approach that carefully balances theoretical knowledge with experience-based learning, candidates gain from each other's experiences, insights and approaches and forge potent networks and partnerships around specific research themes and methodologies. In the case of MSM, moreover, whose mission and vision expressly focus on global management and emerging economies, this also regards candidates' cultural diversity. The School's particular approach to methodological education that is centered on group work and direct application of knowledge and skills makes the most of the epistemological benefits that follow from working with a wide range of different national and management cultures.

A third challenge of professional doctorates that MSM's RMS course helps to address is the limited time availability of candidates that have to combine work, their private life and a doctoral study. The RMS course, namely, can be followed in two different formats, both particularly tailored to the realities of life of doctoral candidates. For those candidates that can arrange a three-month fulltime sabbatical from their professional demands, the on-campus modality consists of a twelve-week intense trajectory that fully immerses candidates in their methodology education, resulting in what candidates called a 'pressure cooker' that yields a steep learning curve that is

uniquely motivating. The blended RMS modality, that can take up to nine months, is specifically tailored to those candidates that prefer a more gradual trajectory that allows them to work through the coursework alongside their professional work. It requires candidates to join the first module of the on-campus module at MSM so as to create a genuine cohort community and then combines online videos, handouts, moderated forum discussions and feedback via email and Skype to guide candidates through the other four modules online.

MSM's RMS course, in this fashion, has helped to raise the level of the School's DBA program, improving methodological standards, decreasing drop-outs and more fruitfully bringing together its diverse body of doctoral candidates. As such, it might offer valuable lessons for professional doctorates in other fields.

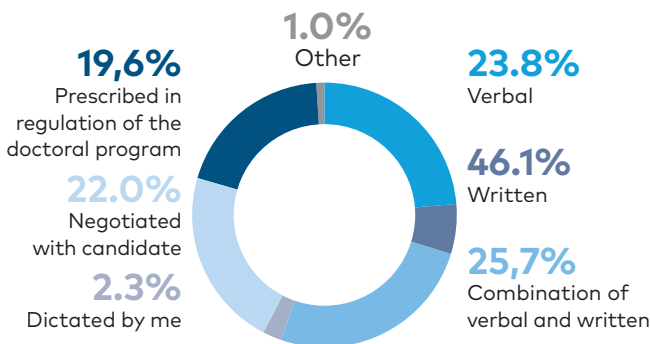
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Setting the scene and getting started

Once candidates have started their programmes the supervisory relationship becomes the main source for supportive engagement with the HEI. The importance of how this relationship was started and on what basis was consistently referred to by supervisors; namely the need to 'contract' (i.e. make an agreement about how supervision would be conducted) at the start of the process. Indeed 93% of supervisors surveyed identified they made such an agreement.

The format of the agreement was varied



In the interviews there was a strong identification that taking care at the start of the process mitigated against problems further down the line.

Clearly the overall preference was a written contract negotiated at the start of the process with the candidate seeking to meet the needs of all three parties i.e. the candidate, the supervisors and the HEI.

The elements included were generally operational and dealt with the process of the work:

- Frequency of contact
- Who initiates contact (59% identified it was the candidate's responsibility)
- Mode of contact - preference seems to be face-to-face but Skype and email are also used increasingly
- Occasionally there will be some discussion as to how feedback is given and this is identified as really good practice (we will come back to this in the next chapter)

There is also an increasing requirement by Institutions to monitor supervisory practice. This was anecdotal at the start of the work but the data bears it out:

- 60% were required to undertake some form of training before doing the work

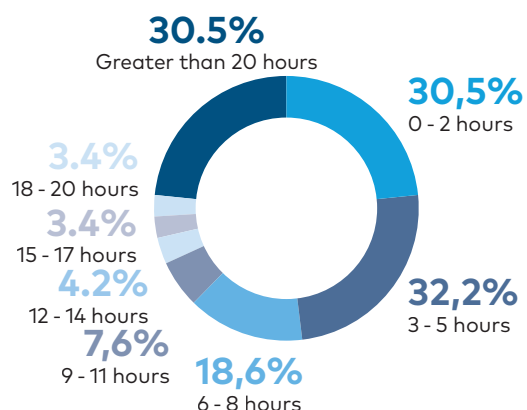
- 75% had access to helpful procedures and protocols to support their supervision and
- 74% of supervisors were monitored in some way by an Institutional committee, with
- over 50% identifying that their practice was 'assessed' in some way.
- Mentoring was also clearly evident with 30% of supervisors but this was unofficial in the majority of incidences.

Interestingly 80% of respondents identified that these pre-requisites were no different to those required for traditional PhD supervision. An interesting example of parity!

How often to meet and what for?

The frequency of contact between supervisors and candidates was a fascinating part of the research and really identified a difference in expectations between STEM subjects and the Social Sciences. As illustrated in the table below there are two quite separate 'norms' for contact. The first is up to 8-10 hours per month and another group where greater than 20 hours is a more usual figure. A quick analysis reveals the social sciences to require the lower figure and the physical and natural sciences the larger.

Frequency of contact hours per month



This raises another point as to what is the purpose of the supervision if there is such a disparity in the perceived need for contact between disciplines. The survey did not explore this in depth but the interviews do make some comment as to the purpose of the supervision (see later).

Point for discussion

What is your purpose in supervision? Are you a collaborator in an exploration as exemplified by the STEM doctorates - i.e. your candidate is a co-worker in a joint piece of work. Or are you a senior researcher mentoring a novice as they take their first research steps in a basically individualistic journey? These are two poles on a spectrum and a supervisor needs to be aware of where on this spectrum their doctoral programme and the focus of the research places the work of supervision with the particular candidate. The results of this debate will determine a range of issues such as form of supervision, frequency, whether joint publication of work is appropriate and/or who owns what intellectual property.

What attributes are needed by supervisors?

The main attributes identified in the survey for good supervisors were in order of preference:

- Good communication skills
- Methodological expertise
- Good project manager
- Good record of completions
- Encouraging candidate to publish
- Experience of practice
- Proven academic track record

The order identifies a highly pragmatic analysis by supervisors of the real need of the work in terms of skills and not perhaps what is usually considered by candidates i.e. publication record of the supervisor and their prestige in academic arenas. The skills and attributes that the supervisors sought to develop in their candidates were more straightforward.

We used the established skill clusters developed by Lee (2008) to provide a framework for supervisors to identify what was important to them in the role.

The top of the list is critical thinking (as might be expected for a doctoral programme) with functional skills (such as how to do research) next in line. Relationship development in this context is more diffuse and overlaps significantly in professional doctorates with enculturation. The interviews identified that candidates realise the benefit of relationship development as a mode of 'getting the job done' i.e. part of working within a human system

and knowing the 'rules of the game' within the new culture of academia is an essential part of that development. **The role of the supervisor as interpreter for the candidate in the 'strange new world' of academia is one that will be discussed later.**

	A	B	C	D	E
Functional	1 (1.2%)	1 (1.2%)	3 (3.7%)	28 (34.1%)	49 (59.8%)
Enculturation	3 (3.6%)	1 (1.2%)	9 (10.8%)	32 (38.6%)	38 (45.8%)
Critical thinking	-	-	1 (1.2%)	6 (7.3%)	75 (91.5%)
Relationship development	1 (1.2%)	1 (1.2%)	3 (3.7%)	28 (34.1%)	49 (59.8%)
Transferable skills	1 (1.2%)	2 (2.5%)	12 (14.8%)	29 (35.8%)	37 (45.7%)

- A Not at all important
- B Somewhat unimportant
- C Neither important nor unimportant
- D Somewhat important
- E Important

Supervisory Style

Obviously the style you adopt when you supervise is highly dependent upon the type of person you are, your values and your beliefs as to the pedagogical issues and your experience of supervisory practice. As we have found in the literature review one of the major determinants of your style is how you yourself were supervised! The literature has described a number of styles and we used these as a framework to ask our participant supervisors to describe the dominant styles for their practice using the Lineket scale as to how important each descriptor was to their specific style.

	A	B	C
Pastoral	9 (10.6%)	49 (57.6%)	27 (31.9%)
Directive	11 (12.9%)	57 (67.1%)	17 (20.0%)
Didactic	31 (36.9%)	35 (42.9%)	17 (20.2%)
Critical friend	1 (1.2%)	19 (22.4%)	65 (76.5%)
Teacher learner	5 (5.9%)	40 (47.1%)	40 (47.1%)
Dialogic	-	24 (28.2%)	61 (71.8%)
Collegiate	4 (4.7%)	40 (47.1%)	41 (48.2%)

- A Not at all important
- B Somewhat important
- C Extremely important

Clearly 'critical friend' and 'dialogic' are the dominant themes and out of all of the options available in this question, are illustrative of a non-hierarchical stance to the candidate. Indeed 'directive' is the least favoured in this section. This is in contrast to the style expected of conventional PhD supervision for novice researchers where the power relationships are well described as identified in the literature review. Such styles are indicative of a mutual respect for the candidate in what they bring to their programme and also an identification of the favoured route by which the supervisor can deliver the development needed by the candidate. This dialogic style is one where each actor in the conversation comes to the work with a sense of seeking to understand the perspective of the other. Such a stance allows the work of supervision to be one of co-creation between supervisor and candidate in which both are respected for what they bring to the work. We will discuss this in detail in the section on the purpose of supervision that follows.

Working with workplace supervisors Collaboration or competition

For a number of programmes it is the avowed intention that supervision not only occurs within the workplace but it also undertaken by non-academic supervisors employed within the workplace. The purpose of this joint supervisory work is to engage with professional practice wisdom as well as academic expertise within the programme. This is borne out by the academic supervisors who identify they are looking to the workplace supervisor to provide real life experience of practice and subject specialisation. However within our sample only 31% of supervisors were working with workplace supervisors and these were predominantly in the EdDs and industrial PhDs.

There are issues in managing the joint supervisory work and these can have a directly impact upon the work of the candidate. For example 20% of the supervisors felt there was conflict between the academic requirements of the programme and the needs of the sponsoring organisation or workplace. There was a clear identification that nearly 50% of supervisors in this situation had experienced some conflict between the advice they had offered the candidate and the advice given by the workplace supervisor. That being said the frequency of contact between candidates and their workplace supervisors

was much lower than with the academic supervisors with the majority meeting less than once a month. This would seem counterintuitive given that the candidates spend the majority of their time at their work places but obviously achieving designated time for the project supervision is an issue. This may be exasperated by the tendency of workplace supervisors to meet the candidate jointly with the academic supervisors hence issues arising from the difficulty of finding joint availability may be present.

The tendency for workplace supervisors to favour joint supervisory sessions is indicative of a dependency upon the academic supervisor to lead the sessions. However they are clearly content to put the requirements of the workplace to the fore. This dynamic tension must be managed if the candidate is not to be distracted or in the worst-case scenario derailed from perusing their project in a purposeful manner. It is part of doctoral work for the candidates to become tolerant or even enthusiastic to working with ambiguity but if this comes from dispute between supervisors at the start of the relationship it can be the source of considerable anxiety and tension

Where supervisory collaboration works most effectively is when there is a clear contract between the supervisors as to the focus of each contribution and the procedure whereby differences can be identified and resolved or amicably debated with the candidate. Explicit identification of the potential difficulties in the relationship and how they can be resolved is needed. This contract must be reviewed with the candidate at least annually to identify that it is taken seriously and the candidate is aware that it can happen and how to signal any issues to the supervisory team.

In the long term proactive engagement of the workplace supervisors with the ethos and pedagogy of the programme can develop collaboration more deeply. In the final section of the Handbook one of the project team members explores a potential route to deepening such collaboration as developed at ADAPT in Italy.

In summary

The elements of practice that have arisen most within our survey work with modern doctorate supervisors are:

- the real need for an explicit model of practice that frames the work. This should include being clear (preferentially in a written contract) as to what the purpose of the work is, who is responsible for what task in the supervisory team (including workplace and academic supervisors) and how the relationships will work (e.g. who initiates contact, how often and in what mode they are expecting to communicate)
- being clear as to your own supervisory style and what attributes you are seeking to foster in your candidates.
- taking part in supervisory training, and preferentially getting a mentor with whom you can discuss your work with your candidates
- knowing and fully engaging with the requirements of your institution in terms of monitoring/progression and assessment procedures so your candidate can trust the process and be clear as to what is required.



3. The purpose of supervision in the modern doctorate

The purpose of supervision is not a trivial question when it comes to modern doctorates. At its most basic it can be thought of as the learning interaction that supports and advises the candidate as (s)he seeks to fulfil the purpose of the specific doctoral programme (s)he is enrolled in.

Doctoral programmes can be concerned with:

- identifying the candidate as 'fit to practice' as in the DPsych,
- facilitating higher level development of professional competencies as in EngD,
- developing a researcher of practice, or
- contributing to the knowledge exchange between academia and industry as in industrial PhDs

The supervisory relationship is the route by which these goals are obtained. It must enable the development of the higher-level critical analysis skills needed to develop an enquiry and through it to fruition in developing new knowledge. This is relatively straightforward in conventional research supervision and what is often referred to as an apprenticeship model whereby the supervisor mentors the candidate in their development as a researcher. The supervisor is an expert in the field and methodology employed and the candidate is a novice in both. The methodology employed in the research will probably be chosen by the supervisor and it will be one of a relative few accepted as 'rigorous and appropriate' for the specific discipline arena of the research focus. A didactic transmission model is generally employed as pedagogy with hopefully an enabling warm professional relationship.

In contrast, for the modern doctorate, the candidate is often an expert in their own practice - and if not then definitely an expert in their context - and may also be using a methodology that is chosen by them and specific to the context of the work and in which the supervisor is not expert. **The supervisor is no longer the 'expert' i.e. they may not be fully conversant with the form of practice of the candidate and may also be unfamiliar with the methodology. So then, what is the value the supervisor can bring to the interaction?**

This has been the dilemma voiced by a number of novice supervisors of professional doctorates, and indeed some more established ones, as they grapple with candidates whose practice is alien to them and who may be operating at higher professional levels than they are themselves e.g. at an international level

in a Fortune 50 company. The answer is in the learning outcomes of the programme and specifically the development of higher level thinking skills that enable the candidate to critically engage with the focus of their research - an aspect of their practice - in a manner that is robust and appropriate. Thus instead of being an expert in a particular subject area and method of research **the modern doctorate supervisor must be an expert in the process of critical engagement with aspects of practice and have the meta-analytical skills in relation to research methods, activity and interpretation to creatively support their candidates' diverse and contextualised research designs.**

A deep curiosity about practice and the development of expertise from the supervisor allows the generic aspects of professional work to emerge and become clear. Whether the supervisor is working with an engineer in an aerospace factory or a teacher in school the human aspects of change management can be remarkably similar. In the same way the supervisors' higher level engagement with enquiry in general and its requirements for authenticity, dependability, confirmability and transferability at the discipline and multi/trans-disciplinary level allow them to work with candidates to adapt methodologies to diverse practice contexts without compromising the rigor of the work.

These two elements are at the heart of supervisory pedagogy in terms of purpose and in the following chapter we will consider the 'crucible' within which this work can occur i.e. the learning relationship between candidate and supervisors.

4. Rationality, relationship and doctoral learning: Caring about what matters

The following insights emerged from the interview data and they take into consideration a wide range of doctoral supervision practices in the UK, Europe and the United States. While these practices vary at the individual and institutional level, there is a marked consistency in the importance of the relationship between the supervisor/supervisory team and the candidate.

The notion of caring for candidates was raised frequently in various forms and manifestations. However the data soon revealed that there were significant differences in the interpretation of caring; how it was demonstrated by the supervisors and how it was perceived by the candidates. There was also data which indicated a lack of caring in the relationship of both the supervisor and the candidate towards the candidate's research and progress; in institutional structures and expectations; and in the absence of any formal attention to the role of workplace supervisors as playing increasingly important roles in optimising chances not only of the individual success of the candidate and their employability but of contributing knowledge and skills to not only their sector or field but to the wider landscape of knowledge.

Generally in Science and Business caring for students was about ensuring the supervisor finds the best examiners, gets them to publish and disseminate early including presenting interim findings at conferences and introduces them to networking with the best people in their own fields. For other disciplines, caring was seen as facilitating learning, maturing people into good researcher practitioners, confidence building and mentoring.

Another difference, which may reflect on the institutional culture and types of doctorate, was the style of responses during the interviews themselves. Generally, the USA (PD) and Italy (PhD with workplace practice) interviews were highly focused, informative, bounded (as in keeping to the questions asked) and precise. The United Kingdom (PhDs and PDs) and Ireland (PDs) were less bounded, more discursive and reflective in the moment raising more questions. The Netherlands (DBA) were both.

In the following sections we reflect upon the main themes that emerged in the interview data in relation to the learning relationships at work in the supervisory practice.

Audiences for this particular section

This section has been written with both the supervisor and the candidate audience in mind and draws on and distils the rich contributions of participants in the research. It also brings into focus the workplace supervisor as a potential audience to address the relative invisibility of their contribution.

The doctoral undertaking is a collaborative one. It is not the lone journey of the long distance candidate. It is about research, and good research is, and should be, collaborative. The stakeholders in the research are not solely the candidate and the supervisor but the institutions, the participants, organisations, communities of practice, governments, sponsors, the public and most of all, that major stakeholder, the future. The researcher and their research embody the agent of change through their agential knowing achieved through the doctoral process and fully realized in the impact of the research.



There is significant responsibility for the researcher and the supervisor to care for and believe in the research and to work towards its potential for impact; and not to see it as some initiation exercise or an apprenticeship to the expert. Research is only worth doing if it means something to both the researcher and the supervisor, and matters or can come to matter to the world in some way.

The ethical implications of this are heavy. They need to be contextualised in the level of accountability required when anyone is going to make a decision based on the findings, or use the research to verify or support other research or existing or new policies, both of which have potential to impact people who did not agree to be participants in the research but may well feel the consequences of it.

The supervisory relationship can take many forms but the general consensus is that attention needs to be on the relationship as a working alliance that will achieve a satisfactory outcome for both.

- For supervisors we hope it will give you insight into resolving issues which arise in the relationship; and how these might be presented as opportunities for learning for you; to enable the candidate to progress; to assess and develop your style of relationality and its flexibility to meet the needs of the candidate; to support you in how caring can be manifested in your context; to inform your choices in continuing professional development areas
- For candidates it is encouragement to take the responsibility of caring for your research; to become more confident in the relationship with your supervisor as your research knowledge increases, a confidence reflected in a more collegial relationship rather than one of pupil and teacher as that confidence grows through your accumulated knowledge shaped by dialogues with your supervisors, with the literature and with your peers
- For institutions to see the benefits of investing in strong support for new researchers that will address the present demands for accelerated skills and knowledge to meet the pace of change and to have a chance of contributing to the what, how and why of decisions that will impact the future; to offer supervisor development opportunities such as coaching models and digital innovations to enhance the learning and the relationship; to engage the work

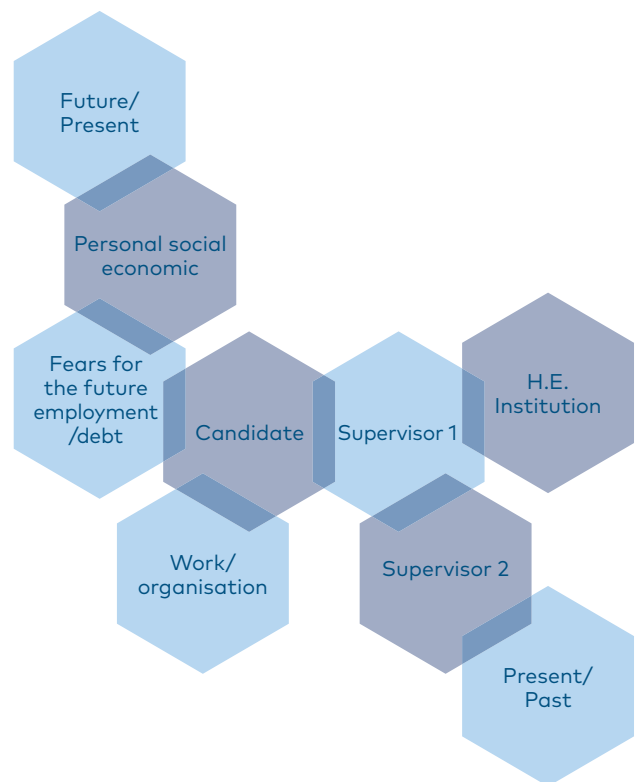
world more closely through the active involvement of workplace supervisors, for example, through being part of assessment panels and research pedagogy design; to offer free training to support them in this bridging of academic and professional practice.

- For workplace supervisors to engage with the world of academia as part of a supervisory team and to inform and contribute to the vision to (re)connect academic and professional knowledge through new research and new researchers.

The conditions for an enriched reciprocal learning relationship

There are different forms of supervisory relationship. Much of the success of them depends on expectations of the complex dynamic whose parts can be moved around and foregrounded at any time during the process of the relationship but all exert an influence at one time or another.

Figure 2 | Relational Mosaic



Transactional trust and expectations: Influences of the institutional context on the supervisory relationship

Trust is essential to any relationship whether personal or professional (peer or hierarchical). There can be an initial sense of trust informed by a range of factors such as reputation, expectation and first impressions. However sustaining trust is established through reliability and reliability is tested over time. It may be helpful to see institutional and procedural aspects of the supervisory relationship as transactional trust that can exist separate from personal trust.

Candidate: *"Well my supervisor is not the most reliable person in the world like being on time or giving much feedback but they know the rules of the game and their completion rate is high."*

Supervisor: *"It is not my job to look after them in their personal lives. It is my job to make sure they get the work done on time and complete."*

Below are some of the elements you may wish to consider when entering the supervisory relationship. Some may not be in your control and you may find them difficult to change/amend but you will have at least identified them and be aware of their impact on the work.

For the supervisor and the candidate

Considerations to be discussed with the higher education institution and between the supervisor/s and candidate include:

- The requirements of the institution and whether the time allocated and the role expectations are reasonable for you both
- negotiating a supervisory contract together
- doctoral research is something you both need to be enthusiastic about

For the supervisor

- Your knowledge of the university regulations, time allocations, deadlines and support services for the candidate
- Time commitment and work life balance
- The space and time you have to exchange good practices with other supervisors and to develop opportunity for collaborative practices
- Your involvement in the selection process and support for your supervision of candidates from other countries
- The digital learning environment and the training available for you to supervise distance students
- The availability of support in supervision for candidates who may speak and write English/other second languages fluently but who cannot write it academically
- The availability of diversity support (culture, religion, gender, ethnicity, race, age)
- The support you need and whether it is available for continuing professional development in the area of doctoral supervision
- The protocols for withdrawing from the supervisory contract with the candidate
- Your knowledge of the discourses on academic freedom which is for both the candidate and the supervisor and which throws light on expectations in the respective roles
- The working alliance contract you wish to make with the candidate.

For the candidate

- Your choice to do doctoral research
- Your choice of university or institution
- Your choice of research focus
- The reasons for the choice of supervisor
- Whether your doctoral research is something you can be enthusiastic about
- The time commitment required
- Your expectations of the higher education institution
- Your expectations of the supervisor/s
- The protocols for changing a supervisor
- Fear of complaining about the supervisor
- Your knowledge of the discourses on academic freedom which is for both the candidate and the supervisor and which throws light on expectations in the respective roles
- The working alliance contract you wish to make with the supervisor/s.

For the workplace supervisor

- The benefits of proactively requesting regular contact with the institution of the candidate and the supervisory team
- The benefits to you and your organisation in helping the candidate to succeed academically as well as professionally
- What support you might like or need from the academic institution
- Whether you believe it would benefit the candidate if you fed back to the institution tensions between the demands and expectations of the workplace on the candidate and those of the university
- Whether there is a role for you as an advocate of bridging any gap between what the candidate needs to succeed in the work world and what the candidate needs to meet university requirements of the award
- Whether you believe it would be of benefit to the institution and to the candidate for a professional practitioner from the sector or field on the doctoral assessment panel.

For the supervisor and the candidate

Considerations of your own relational style and its appropriateness to the supervisory relationship. Dispositions do not change but they can be modified

Candidates say:

- I want my supervisor to care about me and my work, isn't that their job?
- I don't expect my supervisor to care about me personally but I do expect them to care about my work and my career. My advancement is important for their advancement surely
- My supervisor doesn't like me
- I am sure my supervisor pushes me because they don't want to look bad
- I have an absent supervisor, what does that say about them?
- My ideal supervisor is someone who has knowledge in my subject, is kind but tough and knows what is needed to get a doctorate
- My ideal supervisor is up to date with what happening not only in my subject but what is happening in the world
- My expectation of my supervisor is to do their job professionally
- I get more help from my peers than from my supervisor
- My supervisor is not someone you can talk to about personal things
- I would like my supervisor to understand that things can be tough out there and to make some allowance
- The most important thing for me is good feedback
- In today's world when most students are paying I think we expect more from our supervisors. They have contacts, they have network: we should be part of that. They can be more generous.
- I am an American student and in my university our supervisors are so active in everything. They involve us in events, networking, mentoring. They treat us as equals, as young professionals
- My supervisor is like that saying, sage on the stage, that may be OK for some people. I would like more listening, more conversations to be able to say what I think and what I have learned
- I have a supervisor who takes risks, who is very creative, like a rebel. I worry sometimes that although I enjoy this, it may not meet the requirements I am supposed to meet.

Relational trust and expectations: Influences of the personal context on the supervisory relationship

Trust can also be established through personal attributes and responses and can exist separately from transactional trust. It may be helpful to see this as relational trust. Reliability is still a key indicator but its test overtime is based on reliability and consistency as a person, on attributes and dispositions which influence behaviour such as truthful, sincere, determined, committed, congruent, depressive, hyperactive, irritable, bored, passive.

Candidate: *"My supervisor may not get all the regulations right but they care about me and my work and give great feedback."*

Candidate: *"I can't tell my supervisor that I don't think they are very good as it may influence my progress."*

Supervisor: *"I see my job as developing my candidates through the experience of learning to question, of increasing their knowledge so that it eventually changes how they are in the world and how they can impact it positively. I have seen people change through doing a doctorate and I have seen people get a doctorate and it hasn't done much for them personally."*

Supervisors say:

- No one has ever asked me before if I enjoy supervising. I do very much
- Passion, interest, desire, engagement - this helps both to enjoy
- It is hard on young people today
- It is a reciprocal learning relationship
- Students have been asked for their image of a good supervisor - good brain, reassuring, carpet slipper on one foot and hobnailed boot on the other
- The relationship is long, it is a working relationship but it is also about trust. You get to know your candidates and you get to care about them
- I get annoyed when I hear people say that young people don't care, they are lacking in values. In my experience at a university, which makes no claim to be in the top hundred, I see young people with plenty of values. They work hard in menial jobs to finance their studies, they do voluntary work, they want to do good in the world. That is not naïve. I think when a relationship has lots of one-to-one time over three to five years we need to be aware of the influence that learning and the enjoyment of learning can have on them and us as people. I have learned about poverty in Africa, oil exploitation in Nigeria, poisoned water in India. And these young people want to go back and fix it. What's not to respect? We need to respect the potential power of supervision to help young people realise their visions
- I care about my students and I care about quality. They go together. I make sure they have good supervisory teams. I supervise the supervisors. My door is always open. I get them top examiners in our field, I encourage them to speak at conferences and do posters, and network. I help them get a step into a career because I believe in quality of work and that depends on the quality of the student and the quality of the supervisor
- Supervision can be transformative, it can change the way people look at themselves and at the world.

Professional trust and expectations: Influences of the skills and competencies of both the candidate and the supervisor on the supervisory relationship

There are different views on the differentiation between skills and competencies. For the purposes of the insights which arose around this area, skills can be seen as learned techniques and competencies as a combination of skills, knowledge and abilities which arise from experiential and technical knowledge. It may be helpful to consider these under professional trust.

Consideration of some supervisor perceptions

- Supervisors should know the field, keep up to date
- Know yourself before you try to know your student
- Being IT literate doesn't mean much today. There is so much information students have access to. How do we help them to develop knowledge and a critical stance so they can separate nonsense from knowledge
- There is a skill in defining critical thinking and how it's assessed
- Are we professionals, are academics professional? Do we have a professional code, a kind of job description that tells us what we have to do but also how we need to do it, the competencies that are expected?
- There is no requirement in my university for supervisor training and I ask myself what that would be like. I don't think it should be how to teach but how to supervise, perhaps a training would help me know the difference
- Being an expert in the field does not necessarily make you a good teacher, it may make you a good transmitter
- Supervisors need professional development and skills and knowledge of teaching and pedagogy
- Supervisors don't need to learn how to teach, their business is transmission of knowledge and guiding, making opportunities for candidates to embark on learning themselves.
- It is about self-managed learning with a guide
- Supervisors can be wrong and we should say there are things we don't know and not limit our students by our own limitations or use them as our own personal researchers
- It is good for both of us if my students help me to do my research; it is a way for them to learn if they want to become an academic.
- Some supervisors don't know any methodology

beyond what they did when they did their doctorate

- Methodology is a challenge in my opinion for the supervisor as well as the candidate
- Supervisors should organise group supervision. Some research shows that students learn more from peer discussion
- Supervisors should listen more
- In a global world, supervisors need to become more culturally literate. Be aware of the kind of backgrounds their students come from. They can listen, they can start with that, just listening
- I don't always have time but I try to learn something about a new student's cultural background before I meet them
- There are just some skills we can't have for everybody. But we can know or find out where our student can find them like academic writing classes, methodology lectures, learning development say with a third year doctoral student, counselling, student support like welfare.
- The most important skill for me as a supervisor is to know how to walk beside a student, listen and converse
- Some students come onto doctoral programmes with poor time management, a passive attitude and wanting to be taught. I ask myself is it my job to make up for deficiencies in previous experiences of education. I do not have those skills. I do not think supervision is about that kind of development but a different kind. We are not allocated enough hours to take that on. I have colleagues who try and give lots of extra hours. Sometimes it gets results other times not
- Ask yourself on the day your student graduates, when you feel proud and relieved, what was it that you did together that made that happen
- The following were words which were used frequently when talking about the aspirations of supervision and in which the supervisor and the candidate had a mutual role
 - Being creative
 - Time management
 - Applying values
 - Trustworthy
 - Non judgmental
 - Reliable
 - Contracting
 - Quality
 - Respect
 - Confidence.

Consideration of some candidate perceptions

- My supervisor needs to know what they are talking about
- It would be helpful for me if my supervisor knew something about working outside the university. Academics can be out of touch with reality
- Supervisors need to respect us, they don't know much about us. If you can't listen how can you respect someone, if they are not interested how can we respect them
- I can read, I can't read everything. I need my supervisor to guide me in selecting
- A great skill would be just managing to be in contact
- Good feedback
- I think as a student I could have better time management but I also have a job
- I don't expect my supervisor to have to like me but it would be good if they were kind and not distant
- Some supervisors think if they can do word and send emails they know about IT and how to use it, there are better ways to share documents than email.
- I have enjoyed the tough love of my supervisors. They challenged me on everything not just my research work but about my excuses, my not trying hard enough. One of them asked me if someone had told me it would be easy because if so I had been misinformed.
- I don't know about other places but I would like more guidance on how to get the best out of supervision
- I don't think my supervisors talk to each other as they tell me different things
- My experience of supervisors is they don't really live in the real world. I am sure some of them would not keep a job very long out there
- My supervisor cares about my work, she does her best and sometimes I let her down and I let myself down
- My supervisor has so many students I don't know how they have time to do their job.

Knowledge trust and expectations: Influences of the doctoral pathway perceptions on the supervisory relationship

A number of insights have emerged from engaging both PhD and PD (professional doctorate) supervisors, supervisors who supervise both pathways, some who supervise PhDs with strong practice elements and in that mix a few who supervise on taught doctoral programmes. The candidate profile for professional doctorates is usually that of a professional practitioner while that of the PhD is often, though not always, a younger student who will have, for the most part, moved onto a doctoral programme from a masters in a relatively unbroken formal education trajectory since leaving school. Insights emerged on the type of learning experience for the candidate and the supervisor.

Candidates

- Universities still have the traditional view that we are being prepared for university careers
- An academic career for a young doctoral graduate is not very attractive. The system is hierarchical and poorly paid by comparison to other sectors. Universities need to offer doctoral programmes more relevant to the outside world and to us in search of high level careers
- My country (developing world) needs the skills and knowledge I can get from a professional doctorate which is about innovation in thinking and practices which will be really useful for my country. But my country only recognises a PhD
- I am a senior professional, I bring lots of experience to my studies, my supervisor is very encouraging but supervisors and examiners need to understand the difference between a PhD and a professional doctorate
- I sometimes feel sorry for my supervisor because she is allowed only so many hours but she gives me more. I think it is harder to supervise a candidate like me whose research is quite complicated because it is about change in a fast moving organisation.
- A PhD in one discipline I think is easier
- I am a senior manager in an organisation. I am doing a professional doctorate and my supervisor treats me as a professional. I was thinking but shouldn't all supervisors treat all students like that. A student always has something to bring even if they are young. Perhaps some supervisors make assumptions.
- I am a PhD student. My supervisor is the best. He makes sure I keep on track and always invites his

students to events and introduces them to people. It is harder for students who live in other countries but we have regular group supervision online.

Supervisors

- Working with older candidates can be very satisfying because although they come with a set of other challenges, they bring with them a lot of experience. They have something to work with whereas my younger students sometimes don't understand the complexities of the global world although they were born into it
- Professional people who do doctoral research have coped with masses of issues in practice and they come up for air to choose things to focus on in particular
- There is challenge in unpicking the traditional processes of the PhD as the professional doctorate has a different life cycle requiring different responses
- All doctorates need to be informed by theory, otherwise what is the point, what is the contribution to knowledge if they don't have theory. There may be some impact on organisational change without theory but then is it knowledge? I don't think so
- PDs have to meet the same criteria as a PhD, they just come at it in a different way. There is theory in PDs, often quite a lot, for example in an EdD there is critical pedagogy, theories of learning, epistemology
- In practitioner doctorates there is theory not only from the specialist area but lots of theory about practice. Students theorise practice
- Why shouldn't there be international acceptance of professional doctorates as there is for the PhD? There are some very poor PhDs that don't contribute to much and some very good PDs that have a big impact on organisations like schools and business and government departments and can contribute to knowledge
- PDs help us to engage more with knowledge outside of the university, I like that. Not all supervisors are comfortable with practice elements so that is about making sure a supervisory team can offer both and one member could be a practitioner not an academic
- Not all universities have highly developed practice assessment
- Sometimes there is tension with the processes of the university focused on tangible, metric outcomes rather than impact.
- Universities still approach doctoral engagement and assessment according to the traditional profile of the PhD.

Time trust and expectations: Influences of time on the supervisory relationship

Time on the doctoral programme, time for supervision, time allocations, time for drafts to be sent, time taken for feedback, time and money, time to read, time to think, time to understand, time to reflect

These were some of the comments made in relation to time by supervisors and candidates. There were expectations and disappointments that upset the relationship and extra time given which supported candidates but put a strain on supervisors.

The following were suggestions which could work in some cases but not others. The contracting seemed to be the most important one as it divided up the responsibilities and managed expectations.

- Make a good contract from the start
- Work out a timetable together and keep to it
- Discuss interruption of study and the implications
- Give sufficient notice of holidays or absences
- Ensure that a member of the supervisory team or a colleague can be contacted
- Be informed about and be prepared to recommend a student to other sources of support
- Ask the student to be transparent about current and anticipated obstacles to progress so this can be built into the contracting
- Have a 3 monthly review of how things are going
- Discuss with the university or institution the number of students you can supervise at any one time as a matter of quality assurance
- Time is one of the most powerful disruptors of trust in the relationship



The relationship matters: Influences on the ethics of research

As this manual is a live, interactive artefact that belongs to the supervisory community including students/candidates, we would like to invite you to add your insights on the supervisory relationship to these so that good practices can be shared through the website. The research confirmed that many supervisors and candidates had good working relationships and that others did not for a variety of reasons which have been highlighted in this section. There were a range of influences on the success or otherwise of the supervisory relationship including institutional processes and changes in competition, employment market, funding and demands on time. Supervisors often cared about their candidates to the extent that they were not caring for themselves. Time allocation for doctoral supervision is not often adequate to fulfil the requirements of the role impacting quality, satisfaction, retention and completion. Candidates were often time challenged too and tired due to supplementing their fees with extra jobs or, in the case of professional doctorates, working full time in professional roles.

Both sets of stresses could impact caring for the research. Further support and professional development for supervisors were regularly requested, with the exception of a number of supervisors in traditional types of supervisory practice. Candidates spoke of guidelines on how to get the most out of the supervisory relationship.

Professional doctorates were considered more challenging and time consuming than PhDs but there was a high satisfaction in the reciprocal learning partnership which this offered. It was felt that professional doctorates were more demanding for supervisors due to the demands of working roles, the complexities of the research locus and the multi-disciplinary nature of research when the time allocation for the supervision was considered not enough.

There were several contributions from supervisors on retention rates being affected by demands in the personal and working lives of individuals and for PhDs in Europe, a lack of peer contact and periods of isolation. The student population being located across the world, earning money to subsidise post graduate

study and applying for jobs at the same time in increasingly competitive environments are now a regular part of the student experience. In these conditions, the supervisory relationship becomes not only where the research is anchored but where the student seeks both reassurance and guidance in matters relating to these new anxieties as students.

The supervisory relationship is core to the success of the candidate and enhances the reputation of the supervisors. There are different styles and ways of relating. The contract helps to begin laying down the conditions for a good learning alliance. A supervisory team can best be thought of as one which includes the candidate in the team. Spending a few weeks getting to know what each member can offer, helps assumptions to be rethought and to appreciate the skills, competencies and experiences which each member is bringing to the table. The team members share responsibility and accountability for the research; for its validity, reliability, coherence and honesty in a climate in which research is required to become more impact focused and therefore more valuable for decision making that feeds into future directions on the local and global scale.

Undertaking a doctorate also has to be seen as directly relating to employment including, but also beyond, that of becoming an academic or working solely as a researcher in an organisation. Supervision is being seen as development of the person as well as of skills and knowledge. Developing the researcher as well as the research may come under the ethical considerations for our role as professionals, a perspective that we might like to explore further.

Our research revealed extensive caring in existing supervisory practices and the research team has learned a considerable amount from the practices and views of peers and of doctoral candidates and new graduates. It also brings to light the need for the supervisory voice at institutional level to review processes and procedures relating to student support for research students and their supervisors and the criteria of assessment of quality in doctoral submissions.

We hope you enjoy this selection of insights on the relationship as much as we have.

5. Developing the research environment

The relationship between supervisors and candidate is, as we have seen, complex but it is not, nor should it be, the only interaction which supports the development of the candidate. The research environment - e.g. the wider range of relationships and events that the candidates can engage with during their studies - is also significant.

Specifically it allows access to other academics and candidates in similar or dissimilar fields. Joint events and opportunities for interaction help foster further perspectives on the candidate's work through wider discussion and engagement with other researchers. These broader social learning situations including seminars and presentations allow the opportunity to 'rehearse' arguments and get feedback on initial ideas.

It is this engagement with the research environment that allows for 'enculturation' into the academy i.e. development of knowledge by the candidate on how academic work is done and disseminated. Issues such as protocols for manuscript submission, poster presentations and choice of conferences to attend can be 'picked' up through engagement with the environment and this leads to validation by peers as well as prompt identification of when things go wrong.

Modern doctorate candidates can find themselves cut off from the academic research environment as they are employed outside the HEI and spend only a proportion of their time within it. Specific care needs to be taken to include them as full participants within the environment.

This will be evidenced by

- 'Expert seminars' held later in the day to allow travel at the end of the working day
- A newsletter or similar on the activities being held within the academic site so that attendance by those employed off site can be planned for and managed. The use of a whole day of activities instead of separate events held throughout a few weeks. A whole day needs organisations of childcare, work cover etc for one day and provides a wealth of input whereas separate activities taking up an hour here or there across a number of days and are difficult to organise when the candidate is working off-site.
- Prompt response to operational issues by dedicated modern doctorate administrators who can work with candidates who are not present on-site.



Examples from practice 3

Delivering a practice-based doctorate in a blended way

Middlesex University

Modern doctorates attract a more diverse student population than the traditional PhDs. While PhD researchers are often MA graduates who carry on with their academic studies, practice-based doctoral researchers might have a substantial working experience before applying or be in free-lance or permanent employment during their course of study. This is certainly the case in the Doctor of Professional Studies (DProf) at Middlesex University, a programme that attracts mid-level professionals from a variety of industries. Candidates are usually in full-time employment while carrying out their work-based research project. The programme has a modular structure, in which candidates progress, reaching the final 'project module', the pinnacle of their doctoral experience. We have found that a blended format of teaching and learning is ideally suited to meet the needs of this student population who have busy schedules, are located around the globe and cannot commit to campus only activities.

What does blended delivery mean in the case of a doctorate? Blended learning refers to the use of information technology combined with face-to-face activities and can be intended in several ways, depending on the balance between these two elements. At doctoral level, candidates are expected to be self-directed, independent learners who want some flexibility in the pace and intensity of study while being challenged constantly. In Middlesex University's DProf, the backbone of the programme is delivered online and through personal interactions with the advisers (email, Skype, phone or face-to-face) and supported by campus activities that are made available online to the global community of students. Online and offline activities integrate each other rather than being only duplicates; they are organised in a way to cover a variety of learning styles.

Online Delivery

In 2014 Middlesex University adopted Moodle, a simple, open source Virtual Learning Environment, and employed a dedicated group of learning technologists who helped to transition the DProf (among other programmes) to a fully online platform. Learning technologists and DProf faculty have worked together to develop programme pages that would exemplify the best practices of student-centred design and work-based learning. The Moodle interface, called MyLearning, contains a mix of resources, written, audio and video and a calendar of activities, stage by stage, that help students progress and provide support for the face-to-face forms of interactions. DProf candidates are divided in cohorts where they can engage in peer-learning and group discussions. Cohorts are particularly effective in the first taught part of the programme (at Level 7) but they provided a structured way to advance also as candidates enter the research project stage of their degree.

Cohort seminars occur through Adobe Connect, a virtual conferencing system that hosts online workshops and webinars. The content of the pages on myLearning marries seamlessly with the structure of regular cohort seminars on Adobe Connect. For instance, candidates log into myLearning before the class to download the preparatory readings and then can go back to access the recording of the live sessions after they have ended. The Adobe Connect seminar brings together candidates in various parts of the world for discussion on the themes of the week. The cohorts are limited to up to 8 members to avoid an overload of the platform and the technical problems on the users' end with microphones or bandwidth. The Adobe Connect platform is intuitive for some users while difficult for others, for this reason, cohort members are fully inducted in its use before the start of the programme. We found that optimization of the online delivery for the DProf is always a work in progress. The synergy between webinars and resources on MyLearning allows for a comparable learning experience for candidates, wherever they are located. The organisation of the learning materials and the protocols for webinars have to be constantly monitored on the basis of a feedback loop with the candidates. Therefore, we found it necessary to delegate to one member of the faculty the task of curating the configuration of the online learning experience and the resources on a permanent basis.

The strategic thinking behind online delivery has to take into account two inherent limits:

1) One is the technology available to the University. The University has long-term commitments to certain platforms and, because of its centralised nature, cannot switch to newer software as they become available. Both Moodle and Adobe Connect are functional but do not offer the most cutting edge user experience. Or, in the words of a candidate, they are 'clunky'. Moodle, for instance, is not well accessible on mobile. This limit is particularly evident for students often working in modern corporations where the most updated technology is available (lately exemplified by the Zoom platform for online meetings). Unlike business organisations, which can use their large budgets to move on quickly to the best platform available on the market, a large University has to make incremental changes to a platform to which they have invested years before.

2) The second limit is the globalised nature of the student population and the diversity of IT literacy they bring to the programme. We found the communication within the cohorts in an asynchronous way, though encouraged, was not happening through the Moodle discussion forums, which are not user-friendly. In this way interaction through MyLearning was limited. This changed when one cohort group created its own Whatsapp group independently from the faculty. On Whatsapp the discussion flourished and it became a peer-led commentary on the learning of the week as well as reciprocal advice on how to navigate through the University bureaucracy.

The learning for the DProf faculty was that candidates tend to gravitate towards using technologies that they already use in real-life, rather than switch to dedicated University software. Communication in a synchronous way also had some limits. One was the different time zones and work commitments of the participants. It is always a challenge to find a time schedule that would suit everyone. Once an option that suits the majority of participants is found, dates need however to be rotated in order not to exclude certain participants permanently. These challenges are implicit in work-based learning studies, where students carry out their research at work and in which work schedules have priority over university ones.

Campus Delivery

The teaching and learning that occurs on site, at the Hendon campus where the DProf faculty is located, is organised with a good level of integration with the online delivery.

- Induction occurs both online and on campus. Candidates are inducted to the use of the virtual learning environment online, for instance. And there are five Adobe Connect sessions dedicated to explaining the functioning of the programme. Other activities are duplicated, for instance the library induction could be on campus, with a librarian walking the group through the library, or online, with a presentation about the resources available and the possibility to ask questions.
- Expert seminars. These are three-hour, daytime seminars of guest speakers approaching in depth a conceptual aspect of researching professional practice. They attract a mix of students and staff and they are usually interactive. These seminars are clearly an important opportunity for candidates to enhance their engagement with key notions, theories, and practices, but they can be attended only by those who can make themselves available to travel to London. This includes professional from abroad who often make business trips to London and can schedule on in the occasion of the seminars, but it does exclude the majority of those living abroad as well as those locals who cannot fit them in their busy daytime schedule. These seminars, both the presentation and the discussion, are video recorded and the file made available on myLearning. This provides the opportunity to anyone, even those who have attended, to download and view the seminars. The learning experience is however optimised for face-to-face delivery and the interactive component of missing to those who view it online. The paucity of university resources (human and technological) has meant that the idea of live streaming of seminars, which would have allowed remote participants to interact live, has not been implemented so far, even though envisaged many times. Module specific sessions. These occur either online or on campus (often on the same day of the expert seminars) and consist in the faculty covering some particular aspects of the module on which they teach. These sessions are meant to facilitate progression, in particular for those candidates who do not work in cohorts, and to clarify aspects of the work.

Examples from practice 4

The candidate's view of learning in a professional doctorate community of practice

Linda Robinson, DProf Graduate
University of Chester

*I cannot work without kisses (Hannah Arendt):
the experience of learning in a professional doctorate
community of practice.*

Work and kisses? I owe this quotation to a fellow member of my professional doctorate learning community. Our experience over the last ten years would substantiate the significance and impact of relationality upon our ability to learn transformatively and, indeed, for all of us to succeed and become doctors. A 100% completion rate is remarkable. When asked to reflect back, members asserted anecdotally that a common contributory factor to this success was our becoming an effective community of practices. At our last gathering I asked each member to write a paragraph on being in a community of practice, and it is their reflections that add value to what follows.

Communities of practice are usually defined as 'groups of people who share a passion for something they know how to do and who interest regularly to learn how to do it better' (Wenger, 2002). My own research had delved into the nature of successful learning relationships and did not shirk from these being highly professional and, at the same time, deeply personal as persons come together in a focused and purposeful relationship, which do not, and cannot, exist in an emotional vacuum. One of my research participants described supervision as where 'two ontologies meet'. Within our learning community this was replicated as we learned the art of peer supervision and feedback whilst simultaneously forming bonds of love and friendship. As no member of our cohort has escaped tragic life changing events since embarking upon the doctoral adventure together, the passion has been both professional and personal.

One member wrote, 'A community of practice gives me a safe space where I know I am loved and accepted in the truth of who I am by people who respect the highs and lows, the joys and pains of my personal and academic journeys'. Our community was established

through the way in which our course in practical theology was structured on a cohort model. In Wenger's terms our community was set up in a strategic context in which the reflective and reflexive elements of practical theology could thrive, and which provided a foundation of such approaches to learning transformatively. Potential and readiness may have been taken for granted in the nature of the discipline, but we were led into ways of being and working with appropriate leadership and skilled coordination.

Another member asserted from his experience, 'Good learning communities value equality of leadership and participation and subvert the tendency to form naturally competitive hierarchies.'

We began our studies at the same time and throughout the course met regularly for residential that generated a sense of belonging and helped us to develop our identity as doctoral candidates. Indeed, 'We quickly formed relationships across the cohort recognising the rich resources each member brought to the learning process. This has spilled over into more supportive and affirmative relationships that have continued to be a significant and precious resource.'

The residential programmes were designed by the Programme Leader, who brought in appropriate expert. At times we were out of our depth but the ethos was one of perseverance. Our programmes thus reflected common needs, e.g. ethics, research methods and individual needs using tutorials and staff facilitated 'work in progress' peer presentations where tutors modelled a coaching approach in offering challenge and support. There was a regular rhythm of activities, some suited better than others. Some of us will never forget the pain and joy in equal measure going through the whole process of one's professional doctorate in one day. Each residential invited and responded to evaluation. In Wenger's terms the organisation fulfilled those critical success factors of strategic relevance, visible leadership without micro management, a dance of formal and informal structures, adequate resources and a consistent attitude.

Residential events also gave space for social interactions. They provided the foundation and template for our community to grow and thrive; indeed we continue to follow the same model even now when we meet up annually. The cohort is

amazing; we all went on to complete successfully and to accommodate a dynamic of new additions and welcoming returnees.

Staff modelled learning from one another and from us with humility and vulnerability, recognising and appreciating what each was bringing to the table as they acknowledged our professional practice and learned from us and facilitated in coaching style that proved enabling and empowering to our learning. Ultimately they made themselves redundant as we grew from dependency to a blend of independence and peer interdependency.

Residentials were designed to endure that we were kept up to date regarding the institution, whilst we were given space to offer our views regarding the same. As part time distance learners, it proved much easier to feel as if one belonged to the cohort rather than the institution. Nevertheless, other members of the department participated in the residential, offering wide expertise and points of view, resources, and a sense of welcome into the department. Residentials proved vital to establishing confidence and trust as relationships across staff students and year groups were nourished.

Opportunity was invariably made to share and celebrate achievements. 'Fun and frolics did much to lift a mood of gloom and despondent inadequacy whilst we held to the discipline and structure established initially by tutors whose enthusiasm and rigour set an ambience for reciprocal and respectful learning. We all wanted the best for each other and there developed an ethos of acceptance in seminars and action learning sets that did not duck or neglect to give and received feedback, which was pertinent and relevant, stimulating and provocative, inspiring us to be and become the person we were created to be and to slog on.'

As another person put this, 'It was like joining a family with super encouraging dazzling parents. ... They taught me a whole new way of academic work. ... Can something that is so much fun be serious?'

Our cohort had wide ranging professional backgrounds and areas of expertise, which were reflected in our research fields. There was also disparate experience in our understanding of, and experience in, practical

theology. However, being and becoming practical theologians is our common passion and purpose. We are all energised by this domain and remain eager to learn and develop our practice as practical theologians. It could be argued that this discipline lends itself to being the focus of a community of practice as it does not seek easy answers to issues and problems, but on the contrary is open to complexity, ambiguity and uncertainty.

'Being part of our community of practice has been about being with people who "see", who think who are perceptive.... It has been a place of ready understanding, of sharing and expanding ideas, of laughter and tears,' wrote one member.

En passant, in this regard it might also be a pertinent factor to our practice that to some degree or other we would consider ourselves to be people of faith, yet faith does not come easily to any of us. Early on in our work we discussed the perceived boundaries between the academic and the confessional. What this does do is add further relevance and urgency to the domain which is common to us all and which interweaves between the formal and informal structures of our community.

One member described how she felt, 'freer to hear and sing the song of my soul.' As we developed into a mature group dynamic we found that we found sources of help, support and expertise. One member identified its multi layers as: 'Firstly, there is utter respect for one another's learning, study and professional practice. By this I mean there is attention to detail, what is not said, what is intuited and honest feedback without a pecking order. Secondly, there is collaboration where people's contribution is affirmed accepted and valued. Each contribution is unique but often has overlapping themes. Lastly, there is a trust, a friendship and intimacy, companionship along the way where we can achieve beyond our limits.'

Another wrote, 'Part of it was simply knowing that there were other people juggling, as I was, with family and work commitments alongside trying to read write and research. Part of it was having points of contact and connection when the experience of juggling could be articulated and the companionship

of the journey felt. That somehow lent energy - may be the energy of the group or the energy of being understood and affirmed - to the enterprise. An important part was the discipline of having to present the work in progress-having to account for myself to others - I need that focus. And being able to account for myself to people who were discerning and supportive accepting and enthusiastic but constructive in feedback. Another part was hearing the work of others and making connections between mine and others.'

Another common strand was how the community of practice was about learning transformatively about one's self, as one member reflected, 'Being in a community of practice ... is not always about learning from others, though that forms a substantial part of the experience, it is also about learning from yourself, your experience restated, your knowledge affirmed, your vulnerabilities held dear.'

Being part of a community or practice remains energising and sustaining and motivating, generating a climate for learning which is transformative of not just practice but of personhood. Holding oneself accountable in presenting work in progress on time and of appropriate quality proved yes a discipline that benefited not just my own research but also made me accountable to the group and their research progress. We may all have chosen distinctive fields of study but the sense of responsibility for the personal and professional well-being of others in the cohort soon became a moral imperative.

Not one of us would describe this as easy. Indeed, one described the process as 'Stretching as I reach to hear/understand/receive from colleagues as I reach to hear/understand/identify my own knowledge/questions/contributions'.

Wenger (2002) makes a case for communities of practice in summarising the value to members as: help with challenges, access to expertise, confidence, fun with colleagues, meaningful work, personal development, reputation, professional identity, network, marketability, and to organisations as problem solving, time saving, knowledge sharing, synergy, reuse of resources, strategic capabilities, keeping abreast, innovation, retention of talents, and new strategies.

Our DProf community is an embodied example of what can be gained through the relationality at the heart of a community of practice as we have been attentive and open minded, hearted companions on a journey of 'hearing one another into song.' those candidates who do not work in cohorts, and to clarify aspects of the work.



6. Opportunities for the future

Examples from practice 5

Linking with organisational supervisors

Today it is widely recognised that doctoral graduates make significant contributions to innovation and they need broad and creative skillset to do so.

The document Principles for Innovative Doctoral Training, issued in June 2011 by the European Commission, is conceived as a tool or a common approach providing a framework of reference which Member states are invited to apply for guiding reforms of Doctoral Education in Europe. It strongly recommends business to be more involved in curricula delivering and doctoral training so that skills better match industry needs, where “the term ‘industry’ is used in the widest sense, including all fields of future workplaces and public engagement, from industry to business, government, NGO’s, charities and cultural institutions”.

But undoubtedly, today researchers across Europe are still trained to pursue an academic career¹ or to join public research centres. Despite doctorates beginning to be inspired to new principles of internationalisation and collaboration with industry (according to the Principles for Innovative Doctoral Training), PhD candidates struggle to find employment in the private sector and they regard this possibility as a second best or even as “a failure, because they have not managed to obtain a university job”.²

The experience of the doctoral school in human capital formation and labour relations at the University of Bergamo (Italy), co-promoted by the Association of International and Comparative Studies in Labour and Industrial Relations (ADAPT) and by CQIA (Teaching and Learning Quality Centre of the University of Bergamo) has been set up in 2009 well ahead of what was laid down recently in Italian Ministerial Decree No. 45 of 8 February 2013, which introduces this typology in Italy.

This doctoral program has been a forerunner in providing agreements with employers to fund work-based doctoral programs (Casano 2015).

The unique nature of the above mentioned Italian doctoral research program is due to the intention of ‘moving beyond the rigid separation which exists in Italy between education, labour law and employment’.

This aim appears clearly in two major traits: on the one hand, it is based on the methodology of alternation between work and training and the combination of research and work activities; on the other hand, it includes several possible paths (traditional doctoral path, doctorate plus internships, doctorate as employee and, eventually, doctorate within apprenticeships schemes, as the so called Biagi law of 2003 sets the possibility to obtain a doctoral degree following an apprenticeship scheme).

The alternation between school and work and the recourse to internships and apprenticeships results in a direct involvement of the employers and the main actors of the world of work in the learning process. Indeed, according to the program regulation, it is possible to conclude agreements with employers or other educational or research bodies allowing doctoral students to carry out external internships or work periods of research (Casano 2015).

The unique and innovative nature of this doctoral program leverage the integration of a theoretical perspective, which is often not tied to labour market and employability issues, and practical work experience that PhD candidates acquire in the field during their internships or apprenticeship. For this purpose, the doctoral school in human capital formation and labour relations makes great efforts to tailor the specialisation in education, employment, and industrial relations provided to each PhD candidates on the basis of the specific needs expressed by the workplace where candidates experience their internship/apprenticeship.

For these reasons, the program is characterised by a range of teaching methods which go far beyond those offered by traditional doctoral research programs. Indeed, an enduring and fruitful integration/harmonization between, on one side, university training, seminars and conference and, on the other side, the goals, work-based experience and the deadlines agreed in a company calls for continuing innovation and ongoing efforts in planning and managing teaching instruments: these are primarily conceived to keep over time an inner principle of coherence between the development of the research topic and the job requirements and assignments performed by candidate in his/her working environment.

The following range of instruments is worthy the attention for its innovative nature and for being an attempt to harmonize the activities that PhD candidates carry out both at their workplace as well as at the university.

- All students are supported by two tutors: one tutor affiliated to the University granting the PhD title and another one at the workplace;
- Individual training plans are envisaged in agreement with the academic tutor, the company supervisor (if applicable), the school and the area coordinator, pursuant to the program regulation, based on an interdisciplinary approach (Casano 2015);
- The management and dissemination of the main activities (publications, seminars, and assessment tests) take place through an online cooperative platform, an approach that is becoming a common practice in academic settings; (Casano 2015);
- The doctoral school is also experimenting with the use of social media in the working context (Casano 2015).

Among these practices, the first point listed is believed to be a point of strength of this new cooperative labour market-oriented doctorate model: indeed, doctoral students' activities are supervised by a company tutor who is in charge of providing the necessary skills to perform a given task at the workplace. Of course, doctoral students are also assigned an academic supervisor, who is usually a member of the teaching faculty who helps them with their research project, education and training activities: her or his role is particularly crucial in that (s)he is responsible for easing the integration between internal and external training/research, between theory and practice, between university and company interests - a task which can prove very difficult, as shown by many studies on tutorship in cooperative research programs (Salminen-Karlsson and Wallgren, 2008; Brew and Peseta, 2004; Jaeger et al., 2011).

Despite the fact that supervision practices in modern PhD have received relatively little scholarly attention,

the empirical observation and the experience that ADAPT gained over the past years suggests that the quality of supervision has a significant impact on the ultimate success of the project. Among others things, the choice of university as well as workplace supervisor play a pivotal role. Indeed, success is more likely if there is joint-management and ongoing cooperation between university and industry between university supervisors and industry supervisors.

The use of the Practice Firm in doctoral education

The use of Practice Firm (PF) (laid down by law n. 107/2015) represents an innovative educational opportunity for student to fully leverage the learning by doing principle, which informs the methodology of alternation between work and training distinguishing ADAPT's PhD. EUROPEN-PEN International defines PF (also known as simulated enterprise, training firm, virtual enterprise) as "a simulated business set-up experienced by students, during their studies, under the supervision of teachers/tutors. As an innovative centre of vocational learning, it runs like a real business, using a real firm's business procedures, products and services".

The PF is a valuable tool for acquiring skills that can be spent on the labour market as its didactical methodology aims to improve students' practical skills connected to a firm functioning. Particularly in the field of labour law and industrial relations, it appears to be a good channel for sharing learning objects among users and, as a direct consequence, raising PhD candidates' awareness about staff management issues, responsibility and professional skills related to a HRM department.

The MOODLE virtual learning platform is used to create the online learning environment for the PF. This open source platform was selected by Adapt in 2009 in order to develop online learning courses for its technical characteristics (high scalability) which permit to set different types of user with specific

¹ Whatever the evaluation of project work, what is certain is that the lack of resources makes researchers' transition from a master's or a doctoral degree to stable employment particularly challenging also in relation to pension rights, economic safeguards and gender issues (e.g. disadvantages in employment terms resulting from maternity). See G. SIRILLI (ed.), *op. cit.*, esp. 36-37.

² J. SUGARS, E. PEARCE, *Competenze trasferibili e occupabilità dei dottori di ricerca: Indagine sul panorama attuale (Report finale)*, DOCENT - Doctors in Enterprise, 2010, WP1/D1.3, p. 8, where reference is made to an old-fashioned, though prevailing, mentality. Yet Italy represents an exception in the international context. Cf. K. VANDELDE, *Intersectoral Mobility, Report from the 2014 ERAC mutual learning workshop on Human Resources and Mobility, 2014*, 15

capabilities. This means that the same student can be a simple user in a course (role: student), a user with some managing capabilities in another course (role: non editing teacher) and the responsible in another course as well with all the capabilities (role: teacher or manager). This is an important feature for the activities developed by Adapt since the students are involved on different level of responsibilities depending on the specific research project. In this way, with just one log-in, students are able to work and be an active part of several learning contexts represented by different courses. Indeed, MOODLE is used to maintain ongoing connections between PhD candidates doing their internships within enterprises and the Adapt academic staff and doctoral supervisors. PF here works as a virtual laboratory (online collaborative areas) where PhD candidates are grouped on the basis of their job position within the HR department of their company. It could be a payroll and welfare-related job position, legal affairs, industrial relations, recruitment and training.

Every student is enrolled in any virtual department functioning as an online collaborative area, even if his/her study is not regarding that particular department, because any student can be interested in a topic that is not directly related to the internship activity.

Essentially, when a PhD candidate faces a difficult job-related problem or critical situation (for example a legal dispute, the implementation of a company's welfare plan, the drafting of a legal opinion) they can ask for help or advice using the dedicated forums of the online collaborative area sharing the issues they are experiencing at the workplace with all the users of the labs. People are allowed to receive via e-mail contribution and read the materials pooled within the lab from academic staff and Phd colleagues doing their internships or apprenticeships in another company or business. The features of the forums are set up so that participants receive an email when there is a new post on the forum, in order to be acknowledged immediately.

Once they read the request for help, academic supervisors can use the forums to supply students/colleagues with advice or technical support materials. Also the PhD colleagues whom might have experienced a similar problem during their internships are encouraged to make proposals to improve the

enterprise functioning. Bridging theoretical knowledge and practical know-how in the platform gives birth to fruitful debates which last through time, becoming a sort of historical path of the School/Department. New ideas are discussed among the community of subscribers before agreeing on the matter and often more than only one solution may appear.

The main purpose of this virtual platform is then to facilitate communication between industry and university allowing the latter to provide the former with a kind of 'in-house' consultation that speeds up the solution of real time problems which otherwise would request the search for external experts.

Furthermore, from the academic supervisor side, the PF constantly provides them with insights and awareness about difficulties currently experienced by their partners, which could be very useful case studies for the courses or for further research activities. PF methodology puts the students at the centre of the educational process. It facilitates the pooling and sharing of real time issues and working tasks and operations (when the access to information is not restricted, of course) of a real company, developing multidisciplinary skills starting from the specific peculiarities of their workplace.

The PF is an instrument supporting an indirect dialogue between higher education institutions and industry supervisors: students in this case represent a strategic channel that connects these two worlds by constantly delivering and transferring knowledge, skills and experience through the development of common language and on the other hands the cornerstone of a modern system of PhD featuring a closer cooperation with businesses to better match the needs of the labour market and the world of work more generally.

A few critical issues need to be pointed out: Besides the existence of a regulatory framework laid down by the Ministry of Education, this innovative cooperation between employers and universities is still rare and has been the result of the willingness and capability of certain institutions to involve employers in ambitious projects, thus overcoming cultural and bureaucratic constraints ensuing from traditional separation of business and education.

Casano (2015) addresses bureaucracy barriers hindering the involvement of industry in PhD programs, highlighting that business often faces organisational constraints when it comes to match formal requirements tools, methods, practices, deadlines: 'Industry requires flexibility in dealing with several aspects: from selection and admission procedures, which follow the rule of public evidence procedures with a limited or no role at all for companies involved, to candidates supervision practices, which can be forced into a formalistic approach; from evaluation methods and tools, to the involvement in the production of paper documentation concerning educational and research paths, which may discourage companies and may be seen as a 'waste of time'! In the context of the industrial PhDs outlined here, the experience of ADAPT in providing job placement services played a decisive role in the intermediation activity between the two sides (companies and institutions). Indeed, concerning cultural constraints, universities are culturally unprepared to plan and set in motion an alternation system between work and training.

Moreover, the same cultural bias explains the reasons why PhD research in Italy has failed to attract significant private investment: the distrust of workplace learning amongst higher education institutions is fuelled by 'a negative prejudice towards companies' involvement in education and research activities as heralding partisan results, compromising impartiality and quality of the outcomes.'

ADAPT's recent experience points to the need to create a common language and channel for workplace tutors and university supervisors when addressing the research work of their doctoral students. That is why ADAPT has developed further instruments/activities aiming to bridge industry and academy, such as the Community of Supervisors.

Figure 1 | An example of the use of the moodle platform for learning purpose

The screenshot shows a forum post from the 'DIPARTIMENTO LEGALE' forum. The post is by Laura Vinci, dated 23:34 on 2 March 2017. The title is 'Futuro delle professioni legali - tecnologia - formazione'. The content discusses the role of technology in the legal profession, mentioning the need for interdisciplinary knowledge and the challenges of formalistic legal education. At the bottom right of the post area, there are links for 'Visualizza intervento genitore', 'Modifica', 'Sposta altrove', 'Elimina', and 'Rispondi'.

- Contingentamento lavoratori tempo determinato e computo part-time di Alessandro Alcaro - sabato, 4 marzo 2017, 20:10
- Re: Contingentamento lavoratori tempo determinato e computo part-time di Antonella Mauro - martedì, 7 marzo 2017, 11:31
- Re: Contingentamento lavoratori tempo determinato e computo part-time di Alessandro Alcaro - martedì, 7 marzo 2017, 11:58
- Re: Contingentamento lavoratori tempo determinato e computo part-time di Antonella Mauro - giovedì, 9 marzo 2017, 11:46
- Re: Contingentamento lavoratori tempo determinato e computo part-time di Alessandro Alcaro - martedì, 14 marzo 2017, 19:01
- Clausole di contingentamento tempo determinato e pluralità CCNL applicati di Alessandro Alcaro - martedì, 11 aprile 2017, 11:17
- Re: Clausole di contingentamento tempo determinato e pluralità CCNL applicati di Idapaola Mescaritolo - martedì, 11 aprile 2017, 16:16
- Re: Clausole di contingentamento tempo determinato e pluralità CCNL applicati di Luca Vozella - martedì, 11 aprile 2017, 19:51
- Re: Clausole di contingentamento tempo determinato e pluralità CCNL applicati di Alessandro Alcaro - mercoledì, 12 aprile 2017, 19:48
- Re: Clausole di contingentamento tempo determinato e pluralità CCNL applicati di Luca Vozella - giovedì, 13 aprile 2017, 11:29



Examples from practice 6

Community of supervisors

Over the 2016/2017 year the Doctoral School in Human Capital Formation and Labour Relations, jointly offered by ADAPT - University of Bergamo, experienced a new channel to foster dialogue between academy and industry: a community grouping both academic supervisors as well as organizational tutors had been set up.

The 'community of tutors/supervisors' met for the first time on the 20th of January 2017. The aim of the meeting was twofold: strengthening collaboration between academic supervisors and workplace tutors and, more broadly, reinforcing the relationships among the School and the members which finance and support the School itself. The Doctoral School is currently collaborating with several companies, where PhD candidates are experiencing their internships or apprenticeships, according to the methodology of alternation between work and training inspiring the School. Workplace supervisors hadn't been given the opportunity to know each other before that moment, as over the previous academic years they got used to maintain formal relationships only with their academic counterpart, with their PhD candidates, and with the administrative offices of the Doctoral School. Besides empirical evidence showed that the PhD candidate is considered to be the main channel of knowledge transfer to the collaborating partners, fostering close and frequent relationships between academic and industry supervisors seems to play an important role in getting tacit knowledge circulate. Furthermore, high frequency of communication reinforce mutual trust and engagement in the collaborative projects which PhD candidates are working on.

The opening of the first 'community-of-tutors' meeting warmed-up the participants: tutors and members supporting the School introduced him/herself to the community and his position within the company or within the School. Supervisors specified the PhD candidate they are currently tutoring.

Then, the scientific coordinator of the School, supported by senior researchers and by a bunch of PhD candidates, showed the state of the art of the main research fields towards which the School is investing major resources and efforts for the

2016/2017 academic year. Clearly, the main research areas are profoundly tied to the great transformation currently affecting the world of work, such as active ageing, workforce analytics, research work in the private sector and the impact of Industry 4.0 on labour and industrial relations. The whole community of tutor, in particular workplace ones, expressed great interest towards the research areas presented and provided the community with valuable insights from their daily practice and comments to help academic researchers (and PhD candidates as well) to address major issues related to their projects and work. At the same time, academic tutors provided workplace supervisors with legal consultations and theoretical approaches to tackles major issues related to human resource and industrial relation management.

Senior workplace supervisors, representing long-standing partner institution of the doctoral school, welcomed with great pleasure the experiment, expressing their availability to host at their place the following meeting. Supervisors agreed to meet at least twice or three time per year in order to share knowledge and fruitfully discuss about emerging issues and opportunities ensuing from their research projects or day-to-day activities (which, is worth to remember, mainly focus on labour and industrial relations). The 'community of tutors' will hold a second meeting on the 30th November 2017.

In conclusion

As the Erasmus project team that developed this resource we would like to take some time to reflect upon the many dedicated and inspiring supervisors and candidates we have met in the last three years and who have been so generous with their time, ideas and experience.

Doctoral supervision is one of the highest levels of scholarly activity within the academic profession and has the complexity expected of such elevated work. The demands on the supervisor in terms of academic rigor, insight and relational acuity are many and there was also evidence of a real personal investment in the candidate's progression in all the interviews and surveys we received. The reflections from University of Chester Practical Theology DProf Cohort reproduced in this manual identify the outstanding value candidates derive from such dedicated service by their supervisors.

With that in mind we would like to thank all our contributing supervisors for their service to us and to their whole community in sharing their practice with us and the Erasmus + RA2 programme for funding it. This Handbook is hopefully good enough to spread their work and help develop the next generation of supervisors in what is clearly a growing body of doctoral programmes suitable for the leaders of the future.



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