PROFESSIONALS IN DOCTORAL EDUCATION

Edited by Lucas Zinner

PROFESSIONALS IN DOCTORAL EDUCATION
A handbook

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Abbreviations

DE	Doctoral Education
ESF	European Science Foundation
EUA	European University Association
EUA-CDE	Council for Doctoral Education
HE	Higher Education
HEI	Higher Education Institution
HRM	Human Resource Management
HRD	Human Resource Development
IDTP	Principles of Innovative Doctoral Training
LLP	Lifelong Learning Programme (EU)
PRIDE	Professionals in Doctoral Education

Acknowledgment

When I began working on a project proposal aimed at shedding light on the roles and contributions of professionals in doctoral education, I had not envisaged the extent of positive response that our initiative received. Through my own working experiences - a dedication of more than 10 years to higher education related issues, particularly, doctoral education - I was aware of the fact that there are many like myself who enthusiastically support the doctoral education reform process in their institutions; drafting policy papers, establishing new support structures, and recruiting or training their employees to best cope with the new challenges ahead of us. So obviously, it was time to take a closer look at the professionals who dedicate themselves to contributing to, and supporting doctoral education.

I thank the unknown reviewers for their encouraging feedback on our project proposal entitled "Professionals in Doctoral Education" (PRIDE) and the European Commission DG EAC, which, through the Lifelong Learning Programme, provided us with the financial means to follow this journey.

I thank all of our project partners, and of course, my very professional colleagues and team members at the University of Vienna, who have taken this journey with me. Indeed, this shared journey was very inspiring, sometimes exhausting and demanding, but always interesting. I am very grateful to all the contributors for their commitment, expertise, and voices, both during the project and in the process of writing this handbook. Many of them have become true friends and have made the process of producing this book a pleasure. I am particularly grateful to Alexandra Bitušíková for her voice and expertise. In her role as external evaluator, she helped us to reach the level of quality we finally achieved. In particular, I would like to express my special thanks to Celia Whitchurch; firstly for opening up this niche that we were able to explore through this project, and secondly, for her kind preface to this handbook.

I am especially indebted to Allison O'Reilly. This book would not have reached this quality without her tireless commitment. Last but not least, I also extend my thanks and appreciation to Michael Wimmer for his support throughout this project. He diligently helped the whole consortium move the PRIDE project forward to ensure its success.

Lucas Zinner

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Celia Whitchurch is Senior Lecturer in Higher Education at the University College London Institute of Education. Between 2005 and 2009 she undertook two studies funded by the UK Leadership Foundation for Higher Education, on the changing roles and identities of professional staff, and the emergence of a Third Space between academic and professional spheres of activity. She has published widely on higher education management, and was the founding editor of perspectives: policy and practice in higher education, the journal of the Association of University Administrators. Her research interests include changing professional identities in higher education, the emergence of 'blended' roles between professional and academic domains, and the implications of these changes for career and leadership development. Her monograph, Reconstructing Identities in Higher Education: The Rise of Third Space Professionals, was published in 2013 by Routledge.

Georg Winckler is the former Rector, and Professor Emeritus of Ecomomics at the University of Vienna. He has held various visiting professorships in Europe and the USA during his academic career and was rector of the University of Vienna from 1999 to 2011. In addition, Georg acted as president (2005-2009), and vice-president (2001-2005), of the European University Association/EUA; a period in which the most influential steps with respect to the reform of doctoral education were taken. He has published widely in the field of economics, but also on higher education policy. Georg was a member of the European Research Advisory Board (EURAB) and the European Research Area Board (ERAB), 2004 - 2012. He is currently a member of many boards in the economic and academic sector including: the Scientific Advisory Board at Humboldt University Berlin, the Board of Trustees for the Educational Testing Service (ETS) in Princeton, and chairman of the ERSTE Foundation. Since December 2013 he is also a member of the University Board of the University of Vienna.

Lucas Zinner is Head of Research Services and Career Development at the University of Vienna. He has a PhD in Mathematics and began his career as a researcher, working in the fields of complex analysis, statistics and econometrics at various universities in Austria and Sweden. After working at the Austrian Science Foundation (FWF) as program manager for two years, Lucas accepted a position in the central administration of the University of Vienna. There his areas of responsibility are related to the Research – Education – Innovation triangle. Lucas acted as coordinator of the EU funded PRIDE project.

A map for the handbook

by Lucas Zinner

This handbook is about professionals working in doctoral education. It has many contributors and combines their knowledge and different experiences with the findings gathered through an international, mostly European survey, and interviews undertaken within the framework of an EU funded project. Contributors to this handbook currently work, or have worked, in different places across Europe and are often situated in central units supporting doctoral education, either as academics in full or part-time management positions, or as doctoral education professionals.

While striving for professionalism is not restricted to non-academic staff (particularly given the increasing challenges for academics moving into management positions), this handbook focuses on staff with non-academic contracts. More specifically, we consider professionals to be: *people working in doctoral education who are utilizing their specific, profound and holistic knowledge of the field to the benefit of their actual working environment. Institutionally embedded and connected to relevant international and national networks, they contribute to the further development of doctoral education, while continuously nurturing their own competencies.*

It should also be mentioned that the views of many experts in the field who might have contributed, are not represented in this handbook. In particular, one might miss those who are actively researching the area of professionalisation in higher education institutions and their changing landscapes. However, this handbook is not so much intended to share and exchange research insights within the community of research experts. Rather, it intends to provide hands-on and practical information on the roles and activities of doctoral education professionals, mainly from the point of view of professionals themselves, or those who are hiring and employing them. References are made to the academic work that provided the background for both the survey and the interviews; undertaken in order to better understand the doctoral education framework.

The intended audiences of this document are administrators contributing to doctoral education, HR managers, and academic leaders in higher education institutions. Although the organisation of doctoral education is still undergoing significant change in many institutions, with new organisational structures already being implemented, nothing

is completely set in stone nor are all needs sufficiently identified or covered. The different activities, strategic approaches and experiences of professionals and key leaders presented here, could therefore, also serve as a source of inspiration and information. The text is organised into five chapters. While each chapter can be read independently, the chapters are arranged so as to build on one another. The handbook starts with a description of the general framework, this leads to a description of the emergence of new administrators, their job profiles and development needs, and concludes with a discussion of potential future roles.

Chapter 1 briefly describes the general policy framework and recent reform trends in higher education. In fact, the reforms in university governance systems are often referred to in the higher education sector as 'new public management'. These reforms therefore lead to a change at management level as well as within university administrative services. Major recent changes directly relate to doctoral education or affect the way in which doctoral training is pursued, in terms of both organisation and supervision.

Chapter 2 begins by discussing the new roles of professionals in higher education, as specific administrators whose input extends beyond common, non-academic work, and how changes in doctoral education provide a new niche for professionals to enter. While professionals in some areas of higher education have a clear and recognised task profile that undisputedly compliments the academic areas of responsibility (e.g. public relations or technology transfer), the position and tasks of those working in the area of doctoral education are less obvious, in that they are linked to the way in which institutions implement their supervisory responsibility. Also discussed in this chapter are the potential tensions and conflicts within the system: how these are caused by the new conception of supervision alongside the emergence of these professionals, and as an effect of increased bureaucracy in doctoral education.

Chapters 3 and 4 are the core chapters of this document. **Chapter 3** is devoted to the roles and activities of professionals in doctoral education and adds the human resource perspective to the discussion. In the past, similar to academic supervisors, senior professionals in doctoral education were mostly guided by their own experiences and their own commitment. This is changing. The increased diversification of tasks, require different qualifications and result in a diversification of job profiles. This chapter describes in detail, what activities professionals are engaged in, their level of responsibility, what knowledge they need to be able to do their jobs, and which skills are required. This information could serve as a basis for job profiles and should be helpful for those seeking to employ people in this area of work. Additionally this chapter contains a number of short contributions from professionals working in doctoral education, in which they share experiences from various

activities they undertook to improve doctoral education in their own environment. These stories also demonstrate the variety of activities professionals are engaged in and the possible ways in which they can contribute.

In the current knowledge-based society, no enterprise can afford to waive staff development. Rightly, this also applies to universities. Thus, Chapter 4 follows closely from the previous chapter, describing how to further train and develop staff to equip them with the necessary skills and competencies to become professionals in doctoral education.

The final Chapter 5 is a compilation of insights from the various contributors to the handbook: their views about past and future roles of professionals, and how they personally experienced the reform of doctoral education.

In the annexes, additional information is provided about the data collection undertaken during the project. In addition, two toolkits are provided that may be useful for staff development activities.

In summary, this handbook combines empirical research findings with practical information from actors working in the area of doctoral education. While it is not intended to provide an exhaustive literature review, some scholarly findings are included. The reader will also find recommendations for further reading and is invited to step into the literature. Underpinning the character of a handbook, however, more focus is given to practical examples that provide the reader with hands-on information and opportunities to learn from existing practices. Short case stories are incorporated in boxes and questions designed to guide the reader to reflect on their specific institutional environment are provided.

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Preface to the handbook
by Celia Whitchurch

On the one hand, institutions are responding to government account-ability and market pressures by introducing more structured envi-ronments, including formal processes around career progression. On the other hand, shifts in professional and academic careers away from linear trajectories over time have been the subject of increased attention (Coates and Goedegebuure, 2010; Whitchurch, 2013; Locke et al., 2016). However, what has been less remarked is the element of serendipity that influences career movements, such as a chance conversation at a conference, a facilitative line manager or mentor, and the opportunity for secondments or attachments that open up a new interest or pathway.

Therefore despite the efforts nationally and institutionally to introduce professional development programmes, these less formal and often unarticulated triggers have become a significant element in what are increasingly seen as portfolio careers, especially for those in early- to mid-career (Whitchurch and Gordon, 2017).

One outcome of these contextual changes is that younger generations of staff are more proactive in seeking out and creating opportunities that will add to their portfolio and profile, and also in networking, for instance across professional communities and with partner agencies. For professional staff, academic credentials such as an MBA or profes-sional doctorate are also seen as valuable components in stimulating a career change.

In particular, individuals working in a Third Space between professional and academic domains may have academic credentials, even though they may not be paid on academic pay scales (Whitchurch, 2013). There is therefore an emergent cadre of academically-oriented staff with doc-torates who may not have academic contracts, but who have acquired generic skills, for instance from formal research training programmes.

As transferable skills have become an integral component of both taught and research-based doctorates (Research Councils UK, 2001), it is likely that those possessing such skills will seek roles that are perceived to be as stimulating as mainstream academic roles (Whitchurch, 2013).

These are likely to be geared more towards relevance and impact than towards attaining curiosity-driven knowledge or an academic career as such, and arise from the increasing distribution of tasks surrounding academic endeavour:

> *"... individuals hired to answer calls on project proposals… must possess a solid scientific background with strong skills in project management. New functions at the frontier between academic and management activities are thus created"* (Musselin, 2007, p. 179).

Such roles include, for instance, people working in academic practice, teaching and learning, research management, knowledge transfer, widening participation and employability. In practice a doctorate may increasingly become a requirement rather than simply a desirable addition.

Doctoral education is a relatively recent addition to these mixed areas of activity, and arises not only from the policies of government and funding bodies, but also from potential students, who see doctoral education as a key differentiating factor in their profiles, whether or not they intend to have an academic career. Doctoral education is now a global commodity with major flows of international students moving between countries and across continents. Full-time, state-funded research students who proceed to a doctorate immediately after their undergraduate degree have been joined by part-time, mature students who are seeking to progress their careers by adding an academic, professional or management dimension to their profile that will inform and promote their next move.

These shifts have implications for transnational education and employability, as well as contributing to knowledge exchange and professional development. Doctoral education is therefore a significant component of institutional profiles, and its dimensions are far-reaching, requiring collaboration within professional and academic teams to ensure that the experience of an increasing range of students is positive and forward-looking, and also contributes to national and international socio-economic agendas.

My own career exemplifies some of these changes. During my earlier professional life as a university administrator and manager I undertook academically-oriented activities such as editing the journal of the UK Association of University Administrators (AUA), perspectives: policy and practice in higher education, authoring my own publications, and being active in the AUA's national development programmes. I eventually undertook a part-time doctorate and towards the end of this period received a research grant from the UK Leadership Foundation for Higher Education to undertake an international study of trends in the

development of professional staff. Subsequent to this I was appointed to an academic post at University College London Institute of Education to teach on MBA, professional doctorate, and MA programmes in higher education and management.

I have had many discussions with academic and professional colleagues working in contemporary environments, and increasingly individuals say to me that 'we are all Third Space now'. Both professional and academic staff are likely to be required to have knowledge between and beyond their immediate professional or disciplinary boundaries, and this also impacts on the nature of their career trajectories. There is the possibility, for instance, for academic staff to move into management, work with business or public sector partners, or focus on e-learning or pedagogic practice. Professional staff, in turn, may work on supporting students with their academic writing, introducing employability initiatives into the curriculum, and ensuring a positive cultural and intellectual environment. They may also be involved in disseminating and publishing good practice, working in teams with academic colleagues, and developing innovative solutions to emergent problems. In current socio-economic climates it seems that the pace of change is unlikely to slow down; such multifaceted roles are becoming an expectation, even though their precise dimensions may not be written explicitly into job descriptions.

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New Developments in Doctoral Education

by M. Kovačević & S. Mihaljević
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This chapter will give the reader a short overview of the recent developments in the area of European doctoral education framework, emphasizing changes which have shaped the contemporary higher education landscape. This landscape has changed from the traditional, one-to-one relationship between supervisor and supervisee focused on generating academics, to a more structured and regulated, team-based doctoral education system producing adaptable doctorate holders, capable of tackling challenges of contemporary society and economy. Chapter 1 will elaborate how these changes created an environment for the universities which is very different from the traditional one, and how the new approach to doctoral education created a need for new set of competences and new job descriptions for people managing the doctoral education at universities. The emergence of a new category of staff on universities, the so called "higher education professionals", can be traced to the changes and developments mentioned in this chapter.

Introduction

Earning a doctorate has become a much more complex matter now than it was twenty years ago. The requirements to earn a doctorate, even if more transparent nowadays, have not changed significantly. Research remains at the core of any doctoral education. However, the doctoral journey has been supplemented with a number of additional demands, activities, responsibilities, duties and opportunities for doctoral candidates. These new elements are now in many cases an obligatory part of doctoral education and include, but are not limited to: career development and employability of new doctorate holders, mobility, internationalization, transferable skills development, cooperation with non-academic sectors, quality assurance and accountability of universities, sourcing funding, and competition among higher education institutions to attract the best talents. This additional content of doctoral education is embedded in different economic and policy settings in which universities operate and influences how doctoral education is carried out. As a result responsibility for the doctoral experience as well as for the outcome of doctoral education has shifted from the individual academic supervisor to the degree awarding institution. This institutional responsibility and the fact that a number of stakeholders are now included in the process bearing responsibility for success or failure, became the major driver for the reform of doctoral education.

"Transferable skills are skills learned in one context (for example research) that are useful in another (for example future employment whether that is in research, business etc). They enable subject- and research-related skills to be applied and developed effectively. Transferable skills may be acquired through training or through work experience"
(Scholz et al., 2010, p. 4)

In order to successfully navigate through this new, complex setting, and provide high quality education to doctoral candidates, universities need to recognise the expertise of a new category of non-academic staff working in a wide range of different administrative units that support doctoral education. This new type of profession is emerging among employees working in the area of doctoral education, triggered by changes in the context and environment in which the doctoral education is conducted. These staff are often are a crucial link between the leadership of the universities and the implementation of university strategies. Their position lies between the purely academic and administrative sphere in what is now recognised as Third Space in contemporary literature (Whitchurch, 2008b).

Read Carter (2014) to learn more about the practice and pedagogy of generic support for doctoral students

This first chapter focuses on how changes in the format of doctoral education have given created a need for a new type of professionals in operating as support staff in doctoral education. The following chapters will elaborate in more detail characteristics of this new category of staff, their role in doctoral education, and how to best facilitate development of staff working in this Third Space.

Academic context and doctoral education: from past to present

Higher education (HE) reform has been intensively implemented, not only in Europe, but also on a global scale, regardless of how well developed HE in particular countries and/or continents was. The European higher education reform, best known as the Bologna Process, integrated the majority of European countries and their educational systems, with the aim to make education more responsive to societal needs, as well more structurally comparable across the European Higher Education Area.

Interestingly, some non-European countries expressed their interest to implement the Bologna system as well. In essence, this unified 'European' educational system became globally attractive. These structural changes combined with a better alignment of the HE systems across Europe are recognised as an important step toward meeting other relevant objectives of European Higher Education Area, for instance, to better prepare doctoral candidates for their career development, and increasing efficiency in general. This HE reform has also been the most intensive one to date, taking place in a relatively short period of time, starting with the Bologna Declaration of 1999.

The scale of reform, which involved academics, higher education policy makers and university management, was something never before experienced by European higher education experts, Although the reform itself was profound, encompassing diverse aspects of academic life and deeply changing the underlying structure of a well established educational system, in the beginning, changes were primarily focused on the bachelor and master level. For several reasons, doctoral education was hardly ever mentioned.

Firstly, doctoral education has always retained a protected status within academia; a top level of education that awards the highest academic degree to a limited number of individuals (a societal intellectual elite), and thus, in a way was 'owned' by the best researchers and professors within the university setting.

Secondly, doctoral education has always formed a bridge between education and research - being essentially at the core research itself - and as such required a different approach than that taken for the bachelor and master systems – or the 'first and second cycles' as these phases of the HE reform have come to be known.

The situation changed in 2005 when a Bologna process conference was held in Salzburg, dedicated exclusively to doctoral education. The Salzburg conference gathered both academics and policy makers.

In her article "Quo Vadis Doctoral Education? New European Approaches in the Context of Global Changes institution?" Barbara Kehm (2007) provides an excellent overview of the changing policy contexts in which doctoral is embedded. See also Georg Wincklers contribution in Chapter 5 in this handbook.

Conclusions and Recommendations from the Bologna Seminar on "Doctoral Programmes for the European Knowledge Society"

Salzburg, 3–5 February 2005

i. The core component of doctoral training is the advancement of knowledge through original research. At the same time, it is recognised that doctoral training must increasingly meet the needs of an employment market that is wider than academia.

ii. Embedding in institutional strategies and policies: universities as institutions need to assume responsibility for ensuring that the doctoral programmes and research training they offer are designed to meet new challenges and include appropriate professional career development opportunities.

iii. The importance of diversity: the rich diversity of doctoral programmes in Europe – including joint doctorates – is a strength, which has to be underpinned by quality and sound practice.

iv. Doctoral candidates as early stage researchers: should be recognised as professionals – with commensurate rights – who make a key contribution to the creation of new knowledge.

v. The crucial role of supervision and assessment: in respect of individual doctoral candidates, arrangements for supervision and assessment should be based on a transparent contractual framework of shared responsibilities between doctoral candidates, supervisors and the institution (and where appropriate including other partners).

vi. Achieving critical mass: Doctoral programmes should seek to achieve critical mass and should draw on different types of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts and in particular across larger and smaller European countries. These range from graduate schools in major universities to international, national and regional collaboration between universities.

vii. Duration: doctoral programmes should operate within an appropriate time duration (three to four years full- time as a rule).

viii. The promotion of innovative structures: to meet the challenge of interdisciplinary training and the development of transferable skills.

ix. Increasing mobility: Doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration within an integrated framework of cooperation between universities and other partners.

x. Ensuring appropriate funding: the development of quality doctoral programmes and the successful completion by doctoral candidates requires appropriate and sustainable funding.

Box 1: The 10 Salzburg Principles (2005)

In the context of the EU Lisbon Strategy and the Bologna Process, a profound discussion about the most fundamental pillar for high quality doctoral education in Europe took place. The outcome was the publication of The Salzburg Principles (EUA 2005), which outlined a united vision for doctoral education in Europe. The specific strength of the principles lies in their common validity, independent of national, legal or disciplinary particularities. Once the discussions began, they never stopped. Ten years on, and after many conferences, seminars, workshops, and numerous content related projects and publications, everyone involved in doctoral education is aware that significant progress already been made.

In 2008 the professionalisation of doctoral education in Europe reached a milestone with the launch of the EUA's Council for Doctoral Education (EUA-CDE).

"When it comes to the European Research Area, doctoral education certainly constitutes a core issue. This was made increasingly clear to EUA during its various projects in recent years to improve the discussions on doctoral reform across Europe. The time is now ripe to move from a mere reflection on doctoral education in general, to actually implementing this new vision. EUA-CDE must be seen in this context, as a platform that offers services to institutions, and helps them improve their doctoral structures and foster their institutional development. It is vital to enhance discussions within a common reflection framework, as well as exchange good practices, in this respect."
(Chambaz, 2008, p. 1)

In 2010, The Salzburg II Recommendations (European University Association, 2010) were issued. Together with the initial 10 Salzburg Principles these documents became the reference documents for those who are either shaping doctoral education in their country, or institution, or those who are involved in other aspects of the process of doctoral education reform.

The needs and changes suggested and identified by the Salzburg Principles touched upon all the aspects of doctoral education. On the one hand, structural changes were required on both programme and organisational levels. For instance, the new and different role of the institution prompted reconsideration of the way in which supervision was conducted. On the other hand, emphasis on the fact that universities need sufficient autonomy to allow them to take responsibility for creating doctoral education that best suits their capacity and needs. This contributes to a diversification of doctoral education programmes that at the same time follow a core set of common principles.

?

Are you aware of the major changes in the organisation of doctoral education in your institution during the last decade?

EUA Council for Doctoral Education

In 2008, the European University Association (EUA) - a leading university association witth almost 900 members, and one of the two organisers of the Salzburg conference – established the Council for Doctoral Education (EUA-CDE). The mission of EUA-CDE is to contribute to the development, advancement and improvement of doctoral education and research training in Europe. It creates a strong voice for European universities on doctoral education both inside Europe and internationally and contributes to enhancing the visibility of doctoral/graduate/research schools and programmes.

EUA-CDE is in constant contact with its members and communicates with all the stakeholders involved in doctoral education, to develop recommendations and policy for doctoral education. In particular, EUA-CDE organises a number of different activities relevant for doctoral education and provides an excellent platform for networking and exchange.

◇ http://www.eua.be/cde

Box 2: About EUA-CDE

Importantly, these principles also crystalised the need for a new type of leadership and moreover, altered the profile of middle management and professional administrative staff involved in doctoral education.

For further reading on this subject, EUA did an extensive study on Collaborative Doctoral Education (Borrell-Damian et al., 2015).

Doctoral education is the core activity of research universities. Today it has an important role in the university strategy and significantly contributes to the overall university outcome. Doctoral education contributes to the institutional internationalization process as well, and as such, requires dedicated financial input and proper management. The reform of doctoral education has given universities a 'second wind'. Increasing the efficiency of doctoral studies by increasing the success rate of doctoral candidates, reducing the duration of doctoral studies, and increasing the employability of new holders of a doctoral degree by providing them with new sets of skills (transferable and generic) – as were the goals of this reform. The main outcome of doctoral education is a new doctorate holder - the highest academic degree - who should be prepared for a wide range of different career paths in the modern knowledge society. Both The Salzburg Principles, and subsequent publications, stressed the importance of collaborations with industry and the public sector, as well as better support for intersectoral collaborations in doctoral education. Thus, in achieving this goal, cooperation between universities and other external stakeholders has become an inevitable framework for new doctoral programmes.

From individual to institutional responsibility: the rise of higher education professionals

In the 1990s, it became clear that the existing model of doctoral education is no longer satisfactory. Traditional forms of doctoral training were producing doctoral students whose education and training was too narrowly focused; who lacked key professional, organisational and managerial skills; were ill-prepared to teach; took too long to complete, or failed to complete at all; and were poorly informed about employment opportunities outside of academia (Kehm, 2007). New and increasingly complex demands were being placed on universities by the labour market and knowledge-based economy and doctoral programmes were falling short of these demands.

Shift from individual to institutional responsibility, by Alexandra Bitušíková

The world faces a number of serious global problems that can be solved only by highly educated, smart and responsible people. This is one of the reasons why many countries and universities all over the world have been increasing the number of doctoral candidates in recent years.

As a consequence, the organisation of doctoral education has also changed. It is no longer an individual trajectory based only on the relationship between the doctoral candidate and the supervisor.

Today it requires a different way of organising and managing the process of doctoral training – from the very beginning (selection and admission) to the final defence of the doctoral thesis. It is the institution - the university - that has to take greater responsibility for the overall process, while supporting and protecting the relationship between the doctoral candidate and the supervisor as a cornerstone of the process.
This is the biggest challenge for any university because even if the institution introduces rules, procedures and guidelines, as well as new structures (such as doctoral schools or centres), the supervisor remains a critical and important stakeholder in the process.

The supervisor is the key person who can guarantee the scientific progress of the doctoral candidate, whereas the institution must guarantee the quality of the whole process to ensure that each doctoral candidate acquires skills to make him/her employable in any sector of the society and economy.

Box 3: Shift from individual to institutional responsibility, A. Bitušiková

The situation has since changed tremendously. The doctoral degree is no longer seen as a primarily academic title, needed and valued only for an academic career. It is now a 'ticket' to research and professional careers for young researchers both inside and outside of academia. In a way, the final 'product' of doctoral education today bears little resemblance to that of twenty years ago.

The new model of doctoral education is based on clearly defined (and often formally stated) rules and expectations for all participants in the process of doctoral education. Higher education institutions today have a growing institutional responsibility for the outputs they produce, and are operating under a new type of arrangement (or 'contract') with society. According to this new arrangement, HEIs are "… responsible and accountable for their programmes, staff and resources, while public authorities focus on the strategic orientation of the system as a whole." (European Commission, 2005, p. 7)

In the similar line, the recommendations of The Salzburg Principles state that universities need to assume more responsibility, ensuring that the offered doctoral programmes and research training are designed to meet new challenges and to include appropriate professional career development opportunities for doctoral candidates (European University Association, 2005).

In order to handle this new requirement, universities are changing their governance models and putting stronger emphasis on the role and responsibility of the university leadership. In this new situation, university leadership has to strike a balance, between the demands of the academic community for more autonomy and social responsibility of universities on the one hand, and on the other hand, the state regulatory mechanisms (such as evaluation, (re-) accreditation and ranking of universities), which seek to control and monitor the functioning of the university. As a reaction to this trend of increased institutional responsibility, in most universities, the university leadership and management staff are being increasingly professionalised.

The demand for more institutional responsibility was a major reason for changing the organisation of doctoral education in universities. The organisational structures of doctoral schools are suggested to increase quality, raise efficiency, and at the same time to allow for accountability in doctoral education (Sursock and Smidt, 2010).
In most cases, the creation of doctoral schools was one of several initiatives taken by universities to improve doctoral education.

?

Are you familiar with guidelines and rules regulating the process of doctoral education in your institution?

?

What kind of key performance indicators are in place to measure the efficiency of doctoral education in your institution?

This was reflected in the PRIDE focus groups, where participants – higher education professionals – described how they were participating in new developments at their university. They were contributing to the creation of new organisational forms, which required new type of staff and new set of skills.

The creation of doctoral schools requires qualified administrators familiar with the higher education system and who have a clear under-standing of the state-of-the-art in doctoral education. This was one of the starting points for the emer-gence of professionals in doctoral

> *"... I was at the right time in the right place. I was asked if I want to develop this university wide research school and yes we started from zero ..."*
>
> *Focus group participant - Senior professionals*

education and doctoral schools were creating new positions for higher education professionals (see Annex 1 - Data Collection). To cope with new requirements, universities have expanded the administrative work force and new jobs with new functions have been created. Participants in the focus group reported that the positions they now occupy were not present at universities twenty years ago. Still, the area of higher educa-tion management is often considered 'a completely new field of work'. These new positions are the result of aforementioned changes in the overall governance structure, and in doctoral education in particular.

> *"I think that the rise of Doctoral Schools, the changing in the supervisor relationships has helped the rise of professionals... I think also we need managers... so professionals dealing with all the things around the PhD education".*
>
> *Focus group participant - Senior professionals*

The shift to institutional responsibility also impacted the supervision process, which still occupies central importance in the trajectory of a doctoral candidate. As previously mentioned, a new element in the doctoral process is the recognised institutional responsibility for guar-anteeing proper supervision, or at least for providing all the necessary conditions for the success of supervision. The role of the supervisor has become more complex and demanding, while at the same time the role of higher education professionals - as a bridge between supervi-sors, management and doctoral candidates - has gained importance in universities that want to assure high quality supervision. Higher education professionals often participate in the design and organisation of different types of supervisor training programmes in universities, and in the implementation of quality assurance measures aimed at the supervision process.

A code of conduct for supervision or guide to good practise can be a very useful tool to discuss and define standards and make the expectations explicit. See for example the Code of Conduct of the Universidade NOVA de Lisboa and references therein.

Supervision is recognised as a complex task and a multidimensional process: it is founded in the supervisor and supervisee relationship, but supported by trainers, evaluators and insightful administrative staff.

" … In the light of diversity, change and demand, supervisors and institutions need to focus on supervisory developmental needs and practices. The role has become visible, and it needs to be clarified and developed, recognising differences from one subject to another, one institutions to another, one supervisor to another."

(Wisker, 2012, p. 5)

Administrators in doctoral studies: their role vis à vis doctoral supervision
by Hans Sonneveld

As support staff working in doctoral education, we have an important role in supporting our doctoral supervisors and doctoral candidates. We work with professionals, and this determines how we shape our support. In most cases, a top-down approach will not work. We don't tell them how they should supervise and support their PhD candidates, how their PhD candidates should organise their dissertation work. We offer them support from experts in supervision and managing a doctoral project, focusing on the exchange of good practices. This new task is directly related with developments in the doctoral studies mentioned above.

We, as administrators, should realise that many supervisors are doing a good job in guiding their candidates to the dissertation. Most of the PhD students are satisfied with their supervisors. Again and again, supervisors do score on average a 7.5 (on a scale of 10). We also know that about 10% of PhD students evaluate their supervisors with a 'just enough' or lower. We know how difficult it is to get in contact with those candidates. Here is a role for us as administrators in doctoral programmes.

If we study the major developments in supervision, we may conclude that in many countries the need for further professionalisation of the supervision is recognised. In a few countries, this is an obligatory element of the organisation of doctoral programmes. In many other countries however, we see dispersed and vulnerable initiatives to offer the supervisors more support. Often, it is feared that supervisors would oppose or dislike extra support. This is a false assumption as long as we take the following principles as a point of departure. Many supervisors are doing well, but often face problems that relate to very specific issues. An inventory of these problems is the starting point for whatever program we offer. We take their own good practices as the basis for an exchange between colleagues. Most fruitful will be to reward and show good practices, instead of continuously looking for mishaps that deserve administrative sanctions.

Box 4: Administrators in doctoral studies - their role vis à vis doctoral supervision by H. Sonneveld

New status of doctoral candidates and the role of higher education professionals

Changes that affected the universities and doctoral education as a whole, have also influenced the status of the doctoral candidates, leading to the emergence of a new 'product' of doctoral education. In the new approach to doctoral education, doctoral candidates are no longer considered 'students', but rather 'early stage researchers'. This term that was coined to emphasise their particular position and role in the new system, and to stress their importance to the research output of the universities. This new status of doctoral candidates was further confirmed when the European Commission issued the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers, which stated that: "all researchers engaged in a research career should be recognised as professionals and be treated accordingly. This should commence at the beginning of their careers, namely at postgraduate level, and should include all levels, regardless of their classification at the national level e.g. employee, postgraduate student, doctoral candidate, postdoctoral fellow, civil servants" (European University Association, 2005).

The European Charter for Researchers

The European Charter for Researchers is a set of general principles and requirements, which specifies the roles, responsibilities and entitlements of researchers as well as of employers and/or funders of researchers. The aim of the Charter is to ensure that the nature of the relationship between researchers and employers or funders is conducive to successful performance in generating, transferring, sharing and disseminating knowledge and technological development, and to the career development of researchers. The Charter also recognises the value of all forms of mobility as a means for enhancing the professional development of researchers.

The Code of Conduct

The Code of Conduct for the recruitment of researchers consists of a set of general principles and requirements that should be followed by employers and/ or funders when appointing or recruiting researchers. These principles and requirements should ensure observance of values such as transparency of the recruitment process and equal treatment of all applicants, in particular with regard to the development of an attractive, open and sustainable European labour market for researchers, and are complementary to those outlined in the European Charter for Researchers. Institutions and employers adhering to the Code of Conduct will openly demonstrate their commitment to act in a responsible and respectable way and to provide fair framework conditions to researchers, with a clear intention to contribute to the advancement of the European Research Area.

◇ http://ec.europa.eu/euraxess/rights

Box 5: The European Charter and Code in a nutshell (see DG for Research Human Resources and Mobility, 2005)

Together with the change in the status of doctoral candidates came a change in the competencies they were expected to have after graduation. For many years, the standard approach to doctoral education was individual study programme based on an informal to semi-formal working alliance between a supervisor and a doctoral candidate (the well-known apprenticeship model) with no structured coursework phase (EUA, 2005). Although this approach was very good at creating excellent academics, it was not producing employees suitable for careers outside academia.

The first warning signs were noticed in the UK in the mid-1990s, with the Dearing Report (1997) recommending to enhance the provision of skills training and research support for doctoral candidates. Shortly after, the famous Roberts Report (2002) showed that the traditional type of doctoral education has failed to recognise the need to acquire a wide range of skills, and that doctorate holders were unprepared for careers outside of academia. The 10 Salzburg Principles (European University Association, 2005) stated that "it is essential to ensure that enough researchers have the skills demanded by the knowledge based economy. Examples include communication, teamwork, entrepreneurship, project management, IPR, ethics, standardisation etc". This view was further supported in the Salzburg II Recommendations where professional development of doctoral candidates was highlighted as institutional responsibility, moving further away from the old system of doctoral education.

A clear institutional statement can be key to underpin the new vision and purpose of doctoral education. Read e.g. the advice paper published by LERU (Bogle et al., 2016)

Doctorate holders are expected to be innovative and creative, but also persistent and responsible, in order to move our society forward as future leaders and managers (Bogle et al., 2016; Zinner, 2013). This whole new approach implies that doctoral students have to acquire a wide range of professional and personal competencies as a prerequisite for better employability perspectives. It also symbolises the need to rethink the future career paths of doctoral candidates, since the majority of them will not continue in academia (Borrell-Damian et al., 2015). Thus, universities need to provide opportunities and resources for the doctoral candidate to develop the appropriate set of skills needed for a broad range of careers: from employment in industry or NGOs, to self-employment, or starting private enterprise or entrepreneurial initiatives. This is a trend that is set to become even more pronounced in the near future, due to the increasing number of doctoral candidates enrolled in the system.

Universities have created new structures to provide support for the development of a wide range of transferable skills for doctoral candidates, to improve their personal and professional development (Scholz et al., 2010).

Doctoral graduates need to become more aware of their own competencies and development needs, while recognizing job opportunities inside and outside academia. Adequate career guidance or counselling is crucial for doctoral candidates, regardless of whether they wish to pursue academic, or non-academic careers. While doctoral candidates are responsible for their career choices given the situation on the labour market, it is the institution's responsibility to provide support structures and adequate human resources (trainers, counsellors, support staff) for the professional development of doctoral candidates. Offering training in transferable skills are core components of the activity portfolio offered by doctoral schools and programmes.

To learn more about Research Careers in Europe Landscape and Horizons read the ESF report (Scholz et al., 2010)

Supporting doctoral researchers to be more enterprising
Excerpt from a short story by Dr. D. Boyce, Sheffield University, United Kingdom

In recognition of this change in the destination of doctoral graduates the sector has increased focus on 'employability' training. Although it is important that doctoral graduates should be employable it is also important that they are capable of being employers. If they are to fulfill their role as drivers of the European knowledge economy, they should be equipped to start businesses and create employment. In short they also need to be 'enterprising' and 'entrepreneurial'.

Excerpt 1: Supporting doctoral researchers to be more enterprising by D. Boyce, Sheffield University, UK

Universities are more concerned about the future careers of their alumni related to the question of placements and 'usefulness of the provided education'. More often, universities and society in general, are confronted with the question of quantity versus quality. All of those questions need to be carefully examined and treated with care in the future discussions and policies in higher education, particularly in the area of doctoral education.

Different profiles for PhD students and professionals supporting them
Excerpt from a short story by A. Rendas, Universidade NOVA de Lisboa, Portugal

Nova Doctoral School is a very important initiative because it links the development of scientific competencies of the PhD students with the acquisition of transferable skills in multidisciplinary teams. The Doctoral School of NOVA allows students, on a voluntary basis, to actively participate in short courses, given by experts in their fields, covering areas ranging from scientific communication to ethics, as can be seen in the School's website. This organisation requires not only a different profile of teacher but also the contribution of non-academic staff who, provide support for the activities: from student affairs, to developing teaching and learning materials, and disseminating these via web-based platforms.

Excerpt 2: Different profiles for PhD students and professionals supporting them by A. Rendas, Universidade NOVA de Lisboa, Portugal

Conclusion

There has been a noticeable shift in the position of administrative staff at universities, who are no longer regarded as a 'necessary evil'. Their role in providing quality doctoral education is now widely recognised and valued by all stakeholders. Higher education professionals are now better integrated into the university. However, the problem of retaining these staff at universities presents a huge obstacle in some countries. Even though the position and recognition of this type of staff at universities is improving, at some universities economic factors are still contributing to difficulties in keeping them for longer periods. This is a serious issue that university management needs to deal with. In addition, concerns of uncertain and often unclear job profiles, lack of systematic training and opportunities for personal development, combined with the constant need to carefully balance academic and non-academic segments of work, still present a challenge for higher education professionals. The following chapters offer some possible solutions to these issues.

2

Professionals in Doctoral Education

by A. O'Reilly, L. Schmidt & L. Zinner
University of Vienna

This chapter discusses the new roles of professionals in higher education and how changes in doctoral education provide a new niche to enter. Professionals are a special type of administrators whose input goes beyond regular non-academic work. Whilst in certain areas of higher education professionals have a clear and recognised task profile, which undisputedly compliments the academic areas of responsibility (e.g. public relations or technology transfer), the profile and tasks of professionals in the area of doctoral education are less obvious. Nevertheless, professionals share a profound knowledge of the field they work in, a commitment to stay up-to-date and further develop themselves and a certain degree of specialization with respect to their area of responsibility. In this chapter potential tensions and conflicts within institutions are also discussed, caused by a new conception of supervision, the emergence of these professionals, and an occasional increased bureaucracy in doctoral education. At the end, the topic of talent management as key task of university leadership and supporting factors are mentioned.

Diversification of job profiles in universities

The recent changes and growing complexity of the tasks and responsibilities in universities described in the previous chapter, result in differentiation and professionalisation of management functions. New tasks require specific knowledge and information must be permanently updated. New competencies are required that are not or have not been available to all actors within the universities. The changed framework often resulted in increased responsibilities of university leadership and faculty management and has also affected the areas of teaching and research (Schneijderberg and Merkator, 2013). To cope with these demanding challenges and new expectations of academics, leadership positions are increasingly supported by employees on non-academic contracts, who themselves, often possess high-level academic qualifications, and are sufficiently skilled and competent to take on these new challenges. Experts belonging to administrative units, formerly considered as supporting staff and mostly 'invisible' (Blümel, 2016), have become more proactive players, blurring the boundaries between job profiles.

The process of professionalisation however, can be considered from two sides. On the one hand, new units with exclusively hired or newly trained staff are established. On the other hand, professionalisation functions through the re-organisation of tasks and responsibilities and the creation of new working profiles for existing staff. In addition, more and more employees in universities on non-academic contracts are undertaking work at the interface of academic and administrative functions and becoming experts in their respective subjects.

Despite these recent developments, there is not yet a clear definition of higher education professionals and their integral functions in today's higher education institutions. In addition, the contributions of professionals to doctoral education have been widely ignored in the literature, while functional areas including finance, human resources, and student support were mentioned (Whitchurch, 2008b).

The PRIDE project made the attempt to bridge this gap and to contribute to a better understanding of the roles of these Third Space professionals and their potential contributions to doctoral education. As indication of the appearance of professionals in doctoral education four criteria were applied as proposed by Gornitzka and Larsen (2004) to define professionalisation of staff in higher education:

- the rise in formal status,
- the increase in formal educational requirements for appointment,
- the emergence of a common cognitive basis, and
- the growth and formalization of networks among individuals.

Moreover, using the empirical material collected during the project, the PRIDE project consortium proposes the following description of the professionals in higher education, specialised in doctoral education:

Role within the Higher Education System

Professionals in higher education specialised in doctoral education are persons who are working in the higher education sector, having a profound and holistic understanding of the systematic level of doctoral education globally and being able to translate their knowledge for the benefit of their own institution and doctoral education in general.

Role within the Institution and the Community

Professionals are aware of the context of their work. They are well embedded and connected within their institution and with their peers. They understand the great importance of networking with other sectors and with other institutions across Europe and globally.

Merits and Skills

Professionals continuously develop their knowledge and skills. They have the capability of identifying and solving problems and providing options for decision-making in the field of doctoral education and make autonomous decisions within the limits of their responsibilities. Professionals contribute to the further development of doctoral education within their own institutions.

While Gornitzka and Larsen (2004) identify the rise in formal status as being the most critical, Deem (2010) stresses that lateral networks between professional services managers across institutions support the emergence of an identity as a corporate body within higher education. This augments the sense of 'identity beyond institutional boundaries' (Whitchurch, 2004, 2006, 2008a, 2008b, 2013), which again suggests an increasing professionalisation.

Professionalisation and the rise of identity

"Successful institutions are likely to have coherent institutional strategies, astute management expertise and an engaged staff culture across all areas of the organisation. Appropriate professionalisation contributes to the development of all these features within a University. … Moreover universities need consistently strong organisational and staff performance to adapt to competitive environments. The effective deployment of staff and other resources for maximum benefit to the institution becomes critical, and the professionalisation agenda can enable this."
(Rixom, 2011, p. 13)

When looking at how these higher education specialists were established within institutions, it became clear this kind of professionalisation in university administration was mainly triggered and driven by the externally imposed requirements and the changes of organisational structure, rather than the desire of individuals aiming to improve their internal positions. Universities and their leadership, established new organisational structures and trained respectively recruited staff for this purpose, rather than administrative personal actively lobbying for more autonomy and new specialisations (Blümel, 2016). Therefore, it is the university leadership that needs to react to changes on institutional, sectoral, and global levels, by empowering and further developing its professional staff to ensure the institution's competitiveness.

Traditionally, academic identity is closely related to research and educational activities. However, changes in higher education have added further complexity to the formation of scholarship; nowadays tasks and responsibilities for staff employed on academic contracts have diversified. The academic identity of a teacher and researcher within a given disciplinary and departmental setting is complemented by a professional identity as a manager and entrepreneur (Kehm and Teichler, 2013). The former dichotomy of academic and administrative personnel has now become a trichotomy, with the addition of higher education professionals (Schneijderberg and Merkator, 2013) , defined by Whitchurch (2008a) as Third Space professionals.

Can you identify an area where you are aware of "Third Space" taking place in your institution?

In a series of papers, Whitchurch developed the Third Space framework for professional staff in order to analyse its changing roles and identities, mainly in the UK environment. Actors from the professional and academic domains have entered this Third Space, in which "administrative services has become re-oriented towards one of partnership with academic colleagues" (Whitchurch, 2008b). This observation is valid for the area of doctoral education as the following statement indicates.

"It's an intimate partnership between an academic leadership and strong professional leadership".

Focus group participant - Academic Directors

In this blurred environment Whitchurch (2008a) proposes a mapping of professional identities in higher education against four aspects of professional activity: space, knowledge, relationships, and legitimacies. Given the dynamics related to the reform in doctoral education and the emergence of professionals therein, it seems reasonable to consider identity as an on-going process of development with the possibility to grow and mature over time. While Whitchurch's (2008a) framework is focused on management levels, it can easily be extended to more junior roles. Graham (2014) proposed a role matrix structure as a framework to locate all university staff. The dimensions of this matrix as proposed, are academic focus and skills (teaching and research), and management focus and skills. This matrix can easily be developed further by introducing focus and skills related to the specific professional functions as an additional dimension.

However, as pointed out in the literature (Clarke et al., 2013) professional identities within universities is still an under-researched area. Moreover, people contributing to the area of doctoral education have only recently entered the Third Space. In particular, during the phase of restructuring doctoral education so-called 'cross-boundary and blended professionals' (Whitchurch, 2013) were engaged building the bridges between newly implemented structures and traditional academic settings.

The concept of third space was introduced by Celia Witchurch based on her studies conducted in UK higher education institutions. Increased complexity in the management of HEIs has resulted in new administrative support functions and, to some extent, new units being created at the interface between administrative and academic activities. Skills profile of administrative employees are changing and their social characteristics and level of higher education are shifting. Whitchurch is focusing on this phenomenon in her book Reconstructing Identities in Higher Education (2013), where she discusses her research on the roles and identities of these rising numbers of administrative employees.

Futher reading on this topic: Whitchurch, 2013

Characteristics of professionals

The emergence of professionals specialised in doctoral education as a group with its own identity is still relatively new in higher education institutions. This becomes evident when analysing specific job titles and the types of units these specific professionals work in. According to a survey undertaken by the PRIDE consortium in 2015, half of the respondents work in relatively new units (in existence for 1-6 years). In addition, when asking about their job title, close to 190 different titles were mentioned, reflecting the diversity and vitality of the occupational field. The study by Schneijderberg (Schneijderberg, 2013) led to similar results, where the authors concluded:

"…that this gradually developing occupational group, which is on the verge of receiving more and more influence, is by no means yet in a phase of vocational and organisational standardization."
(Schneijderberg 2013, p. 94)

So far, a clear and unifying job profile for professionals in doctoral education does not seem to exist in Europe. However, it is worth noting that the creation of new job titles, though clearly diverse, do indicate a shift towards a more formal status for those who occupy such positions.

As the range of tasks undertaken by these professionals continues to broaden, along with the fact that these positions remain under-researched, it remains difficult to define a singular, homogenous profession with a clear outline of required skills and knowledge. (An attempt to shed light on this issue is elaborated in Chapter 3.) Even at this initial stage, the PRIDE survey results highlight several characteristics of professionals, which underscore the development towards a professionalisation in this area of practice.

The unifying characteristics identified from the reflections and self-awareness of the survey respondents include:
- previous job experience within the higher education environment,
- specific expert knowledge,
- the commitment and ability to further development,
- similar areas of responsibilities and type of work, and
- recognition as expert by the institution.

Additionally professionals believe that it is essential to:
- gain informal knowledge about the functioning of the university,
- know about internal university regulations, and
- inform oneself about global trends and international recommendations.

"[It is essential to have a] holistic understanding of the different aspects that affect and have bearing and relevance on doctoral education, involvement in both recruitment and pastoral sides. Clued into wider national and international developments concerning doctoral provision."

(Quotation from survey results)

Understanding the needs of the different stakeholders, especially of PhD candidates and researchers, and being familiar with the academic discourse surrounding doctoral education is also important. This is closely linked to a commitment to high quality performance on a personal level, and for doctoral education in general. In addition, professionals express strong motivation for change, to implement new topics, and address prescient concerns in this area, and report personal interest in the developments of doctoral education.

To meet these requirements becomes a demanding challenge in a rapidly developing environment. Therefore, professionals are not only competent and knowledgeable in their areas of responsibility, but also share their eagerness to learn and further develop themselves

"I'm committed to the highest standards of integrity and professionalism in the relationship with our clients. I'm trying to provide high quality information and services."

(Quotation from survey results)

professionally. Being recognised as an expert in doctoral education and being integrated in a network of peers, either at university-internal, national, or international level, further contributes to their status as professionals.

Another important component that characterizes a professional is his/her type of work and position. The summarised responses of the PRIDE survey suggest that this type of work demands conceptual, creative and strategic thought and planning. As a dynamic and young field of work, professionals should be able to identify relevant trends and to translate these, if relevant, into strategic and operational initiatives. Furthermore, professionals require a high ability to communicate and cooperate with different stakeholders (e.g. consulting, training and mentoring of researchers).

?
Which networks do higher education professionals use in your institution?

"Formulating strategies and policies, restructuring the office to align with the university´s new strategic vision."

(Quotation from survey results)

Tensions and appreciation

Gornitzka and Larsen (2004) describe that professionals consider themselves a 'complementary' force and do not want to compete at any level with academics. This evolving group of higher education professionals is not actively involved in teaching or research but rather in the support and establishment of a management structure. Nonetheless, these changes invariably affect the values, attitudes and professional practices of academics. Thus, the relationships between academic staff, administrative personnel and higher education professionals deserve specific attention. Even if the existence of professionals and their contributions to the three traditional academic practices of teaching, research and service are evident, they are frequently marginalised and deliberately overlooked by academics and often under-appreciated. Macfarlane (2011) analysed the changes in academia linked to the emergence of professionals who he calls 'para-academic': staff who specialise in one element of academic practice. He writes about "the 'upskilling' of professional support staff and the 'deskilling' of academic staff" (Macfarlane, 2011, p. 1). This may reflect the perspective of many academics who romanticise over the 'good old days' when 'all round' academics - mainly professors - were running the system. It implicitly also judges the work of these para-academics; that they somehow perform better than ordinary support staff.

However, academics must essentially deskill to fulfill their role in this respect. Resentments towards professionals are often rooted in growing concern about the re-allocation of resources across the different activities within a university. Moreover, there is a widespread worry that administrative costs are rising disproportionately (Gray, 2015). Although this is often directly linked to the severe changes and increased responsibilities of universities, academics experience a decrease of available research resources concomitant with an increased administrative burden.

While the emergence of professionals in various areas such as student support, libraries, international offices or technology transfer units is accepted and widely reflected in the literature, little is written about their involvement in doctoral education, which bridges the two core practices of universities: teaching and research. Among academic staff there is the perception that professional staff are acting outside the academic sphere. In particular, supervising doctoral candidates is seen as a core activity of academics.

"The supervisors have one role and the administrators have another role."
(Focus group participant- EUA-CDE committee)

Academics are skeptical with respect the potential contribution of professionals to supervision, as the short story of Gerald Lind from the Univesity of Graz indicates.

About the DocService
Excerpt from short story by Gerald Lind, University of Graz, Austria

DocService, a centre of expertise for doctoral studies, started its work in 2011 with the aim of improving doctoral education at the University of Graz (Austria). While setting up the centre the new DocService team (myself and a colleague, both part-time employed) defined some key aspects of its future work: counselling doctoral researchers, providing an information platform on doctoral studies, offering a course programme in transferable skills, hosting events for early stage researchers, participating in discourses in the fields of philosophy, history and sociology of science, contributing to reforms in (structured) doctoral education, and managing projects related to doctoral studies. All of these aspects touched upon doctoral supervision in one way or another. But none of these aspects specifically addressed doctoral supervisors as highly relevant actors in the field. The main reason was that we encountered a strong demand of support by doctoral researchers and the university management. Doctoral supervisors, on the other hand, were skeptical regarding the usefulness of our center. They thought that it takes money away from research and, further, they were not particularly interested in letting anybody interfere with their supervisory work.

Excerpt 3: About the DocService by G. Lind, University of Graz, Austria

There are different perspectives on supervision, from a relationship primarily between the supervisor(s) and supervisee, to one involving more institutional responsibility and care to ensure high quality doctoral experiences. Certainly, expectations related to the proper support for early stage researchers have significantly expanded. Achievements of recent changes demonstrate that professional staff are engaged in supporting a positive doctoral experience, relating to the organisation of doctoral education and to development support structures. Without question this engagement goes beyond the traditional view of supervision, but is complimentary and can by no means substitute the academic supervision that remains crucial for successful doctoral completion. However, appreciation is based on an improved understanding of the contributions of professional staff. The main value is provided through additional services and support and by relieving supervisors of some of the tasks which have arisen for them in the last years.

"In what concerns the administrative professionals in doctoral education, I think their role is crucial because they are both the 'glue' and the 'face' of the Doctoral School. Because of that, these are the skills I most appreciate in them: Being small-team players; people driven (contact with the public); creative; administrative-driven and analytical (professionals of their job) and pro-active."

(Vasco Monteiro – PhD Student NOVA Lisbon, Portugal)

However, the fact that professionals provide an added value to doctoral education is not yet fully acknowledged. While some individuals receive appreciation for their work, in general there is a lack of institutional visibility regarding the contributions of professionals. During a focus group interview participants agreed on the fact that:

"[universities] don't actually really appreciate what these people [professionals] do for the business of the university, the business of the university in the Rector's eyes are the academics ... and yeah the contract researchers and the money they get in, and the papers they produce ... you know ... this is the reputation of the university ..."

Focus group participant - EUA-CDE committee

Professionals are occupying areas of activity that previously either did not exist, or were outside of or a less important part of the institutional focus. For example, career consultation for careers outside academia (see e.g. by Chiara Lauritano's contribution "Future role of doctoral education professionals" in Chapter 5). Nevertheless, acting in this area one has to be aware of the potential tensions and difficulties arising from the interaction between professionals in doctoral education and members of the academic profession. By making the work of professionals visible, the institutional management has the opportunity to provide information about their contribution and to demonstrate its appreciation to the wider university community.

Working together

The purpose of a doctorate has changed and the former supervisor — student relationship can no longer support the full requirements of modern doctoral training. Thus, academics and professionals need to work in synergy to contribute to the university's diverse missions. Bassnett (2005) highlights a necessity for academics and administrators to work closely together to guarantee academic quality.

?

Is there an open dialogue between professionals and supervisors at your institution?

> *"Guaranteeing educational quality and efficient procedures means that academics and administrators must work more closely together. The worst scenario is one where administrators behave like secret police and are treated by academics with the respect normally accorded to traffic wardens, and one where academics refuse to cooperate with implementing procedures that ensure the quality of what they offer in a fair and transparent manner."*
>
> *(Bassnett, 2005, p. 101)*

Nova Doctoral School
Excerpt from a short story by Patrícia Rosado Pinto, NOVA University of Lisbon, Portugal

After the first two years of establishing and implementing the first steps of the project, the school is in another development stage. Specific capacities of our three members of the non-academic staff are felt as crucial. Nowadays we can think about developing specific domains and to build a more differentiated response to our students. Above all we would like to give an opportunity for the contribution of specific expertise in order to be able to offer a dynamic educational atmosphere, a sound organisational and teaching quality management system and an efficient communication process within the school and outside the school.

Furthermore the personal and professional development of our staff has become one of our priorities. As any innovation process, NOVA Doctoral School has experienced different life cycles. It was crucial to start the project with a small team. Non-academic staff were part of the team and needed to feel involved as partners. Although there are different professional profiles within the non-academic team, the initial effort to operate in an apparently undifferentiated manner contributed to building the desired team spirit.

Excerpt 4: NOVA Doctoral School, by P. Rosado Pinto, NOVA University of Lisbon, Portugal

Attractiveness

In the diction of Whitchurch (2013), moving into the Third Space is often directly linked to a temporary agenda, or initiated by a specific mission. Third Space activities are thus complementing and going beyond regular clerical work and well-established line-activities. In particular, starting new initiatives may depend on external funding and therefore contracts are time-wise aligned with the financial inflow. The survey shows that permanent contracts are more common in institutions that have been established for longer time periods. Often activities have to prove their added value in order to attain long-term financial commitment from university management.

Thus, independent of time constraints related to the contract, it is relevant to understand for HR managers and the institution's leadership whether or not and why professionals would like to stay in their position. From the PRIDE survey it was apparent that more than two third of the respondents would like to stay in the higher education area in a non-academic position. It seems that versatility is a very positive aspect of working as a professional in the field of doctoral education. It is the diversity of tasks and the interaction with many different stakeholders that is seen as a positive. It is worth mentioning that this not only provides satisfaction for the professionals themselves, but is also a clear indicator for professional behaviour in general. This is reinforced when working in a team in a relatively new area that offers many diverse and open career options.

"Higher education management is a growing field in academia as a result of professionalisation needs. It also offers new career opportunities that are not available anymore in 'genuine' research."

(Quotation from survey results)

Moreover, the opportunity to combine managerial and administrative tasks with research and teaching is also appreciated. Policy development and the freedom to develop new initiatives and strategies are further positive aspects that were indicated in the survey.

The cooperation with researchers in all stages is considered as very

"I am building national and international expertise in a fairly new and underdeveloped field within both international cooperation and PhD administration. This means that my job offers both intellectual and strategic challenges and contact with practically all our scientific environments."

(Quotation from survey results)

positive and stimulating. The diversity of people with different views and needs makes the job at the university interesting. This extends from involvement in strategic planning, to working with researchers; many describe supporting (young) researchers as very rewarding and satisfying.

The landscape of career options has changed at both the individual and the organisational levels. The situation at universities is mirroring the general shift in career trajectories away from the traditional life-long employment model, towards shorter incremental career steps often involving multiple and diverse roles.

Consequently, higher staff turn-over and a lack of stability can be a risk for institutions, in particular when new initiatives have not yet settled. Novel approaches for the management of careers are required and employers may wish to consider means to maintain the attractiveness of the occupational field. It is particularly important to ensure the creation of a proper organisational space that allows and encourages staff to interact across traditional boundaries and to explore their full intra- and entrepreneurial potential. Providing this space for collaboration is not only rewarding and attractive, but often becomes an additional measure of success:

"Last but not least, the key for the success of the initiative has been the team running it: it included some academics (i.e. the Director of the Doctoral School and some experienced supervisors), some personnel working in the doctorate and some with technology transfer. We spent a great deal of hours planning, whilst always remaining both flexible and ready to change our ways."

(Chiara Lauritano - Manager of Doctoral School, Politecnico di Torino)

Talent management for professionals

It is well known that employee salaries are the main cost driver in higher education institutions. At the same time, human capital is the most important capital within a university. Thus, institutions cannot afford to ignore the necessity of proper staff development and talent management and must actively cultivate these assets. While emphasis was previously placed on recruitment and selection practices for junior and senior academic talent, efforts in this respect have to be equally expanded to non-academic positions.

?

Which career tracks are available in higher education administration?

With further rapid changes within institutions and increased demands to continuously update knowledge, employees need access to training and development activities. This is particularly true when key services should be delivered and new initiatives set up. The term 'talent management' is commonly used nowadays with respect to the recruitment and nurturing of academic talents. While the task of identifying talent amongst early stage academics is rather clear, the equivalent identification of talent in the area of professionals in higher education presents a new challenge to the university leadership.

From the employee's perspective, becoming and remaining a professional is an on-going process that should be externally nurtured. It requires an internal drive and motivation and is often initiated by the interest and motivation of the individual. The following three key aspects summarise professional attitudes relevant in the context of higher education:

1.   Knowing: a thorough and critical understanding of the context that goes beyond pure awareness is the prerequisite.
2.   Practicing: putting knowledge into practice, applying it and thus adding value to the environment.
3.   Learning: as being a professional is an on-going process, staying up to date with relevant trends and new developments is necessary.

"… it seems clear that relationships rather than structures are at the heart of the way that Third Space works for individuals and institutions."
(Whitchurch, 2013, p. 145)

From the institution's perspective, recognizing and developing talents helps to ensure a supply of qualified staff to fill key positions. Thus, higher education institutions are advised to consider how they can best support professionalisation in relation to specific skills and knowledge relevant for current roles and future tasks. Identifying talents and creating a framework for professional development of staff will become

a quality indicator for institutions. In addition, it is also necessary to establish spaces in which professionals and academics can meet and collaborate.

That this space can flourish and creates added value for the whole, depends on the level of readiness in the higher education community. Derived from Whitchurch's work and the PRIDE project findings, several factors can be identified that are associated with the institution's leadership, the academic community and the individuals wishing to embark on the journey of a professional:

Factors related to the institution's leadership
- Strong and visible continuous support provided by the leadership of the university.
- Flexible organisational structures that consciously bridge the academic/non-academic dichotomy.
- Widely visible recognition of contributions of professional staff.
- Support for job mobility, role enhancement and career perspectives.
- Explicit recognition of professional activities in job descriptions.

Factors related to the academics
- Recognition of the added value when sharing responsibilities.
- Willingness to think 'cross-border' and be engaged in crossover activities.
- Understanding the activities of professionals and the associated challenges.
- Openness to collaborate across hierarchies and academic/ non-academic boundaries.

Factors related to the individuals
- Understanding the framework in which universities function
- Empathy for academics and their work.
- Ability to act 'cross-border', to function in mixed teams and to collaborate.
- Interest to create relationships and to add value.

The management of universities are additionally advised to develop both policy and practice for staff development:
- A practice that supports the identification of potential staff members who have the ambition, motivation and potential to move into a professional activity.
- A policy that puts career and staff development on the institutions agenda and provides talents with the space needed to interact and experiment, even when structures are not yet established.

Transparent job profiles and job descriptions, which emphasise the activities of professionals, are a good basis upon which to promote explicit and visible recognition of professionals' contributions.

The leadership and HR managers are particularly encouraged to use available resources, such as the one provided in Chapter 4 of this handbook, to actively nurture talents in their institutions. The following chapter is devoted to the topic of profiling the roles professionals in higher education institutions.

3

Understanding the roles of Professionals: an HR perspective

by H. De Grande, J Den Haese & K. François
Vrije Universiteit Brussel

This chapter gives an extra dimension to the field of doctoral education, namely that of Human Resource Management. The introduction pinpoints why this perspective is needed in the changing context of higher education and details the importance of using a Human Resource (HR) strategy in order to develop a doctoral education unit within the structure of the institution as a whole. This will be utilised for a job description and specification of professionals in doctoral education, using survey and qualitative data obtained from the PRIDE project. Some concluding remarks underscore the importance of moving from an HR strategy to HR development, which will be detailed in Chapter 4.

Introduction

The economy of the 21st century and society at large have become more knowledge intensive. While terms such as 'knowledge work' and 'knowledge workers' were already in from the early 1960s (Drucker, 1993), nowadays, the development of knowledge no longer takes place in isolation, but together with other stakeholders. Two types of knowledge are usually defined, namely, explicit and tacit knowledge. The former refers to codified knowledge, such as information found in documents; the latter refers to personal and experienced knowledge that is needed to handle codified knowledge. According to the OECD, tacit knowledge is more important than ever in the labour market. An unknown proportion of knowledge is implicit, uncodified and stored only in the minds of individuals. Drucker (1993) points to the fact that, contrary to the labour intensive economy of the 19th and 20th centuries, the characteristic of the modern knowledge economy is that knowledge workers are the owners of the production instruments.

In a knowledge economy, universities are one of the most important institutions for generating and preserving, disseminating, and transforming knowledge into wider social and economic benefits. Thus, as mentioned in the previous chapters, these changes heavily affect the expectations placed on universities and their roles in society. They are crucial, too, for providing opportunities for individuals in an environment where skills and the ability to apply those skills are essential preconditions for employment.

At the same time, universities themselves are undergoing many changes. The OECD (1996) mentions governance, funding, quality, equity, the role of research and innovation, the academic career, links with the labour market, and internationalisation as the main challenges of tertiary education (of which universities form an integral part). These challenges are related to growing globalisation, developments in information technology, and the diversification of the student body (see also Locke, 2004; Marginson, 2007).

The previous chapters have explained how these evolutions and challenges have impacted doctoral education, the development needs of the doctoral candidates, and the requirements for professional support provided by the institution. This chapter goes one step further, and introduces concepts of Human Resource Management (HRM) that are needed to further develop the doctoral education support staff within the structures of the institution as a whole. HRM fulfills a significant function in any organisation (i.e. university) towards supporting both general strategic challenges, as well as those specifically related to doctoral education. Thus, a key purpose of HRM is to develop and maintain tacit knowledge, while building new capabilities on an individual level.

Why a HRM perspective?

Though interdisciplinary by nature, during the second half of the 20th century, HRM began to combine various new perspectives on employees from applied psychology, business administration, marketing management, and management philosophy. The old perspective (called 'personnel management') perceives hiring and developing employees as 'variable costs' in the production process. This negative connotation was turned into a positive with the new perspective on employees as 'human capital'. This radical and human-centred move was inspired by theoretical concepts from philosophy and sociology, e.g. the concept of cultural and social capital – beside economical capital (Bourdieu, 1986). A second domain of inspiration was found in psychology and is based on the work of Frederick Herzberg (1968), who developed a motivation theory (see Box 6).

This new perspective of employees as human capital and HR was later developed by Beer et al. (1984) and by Legge (2005), who emphasised the aspect of competitive advantage generated from an organisation's human capital. The new discipline of HRM was developed during the heyday of welfare capitalism and was based on an economic foundation of competition. Indeed, HRM was not only inspired by a humanitarian and philanthropic approach, but also, if not almost entirely, by the economic incentive to improve the working performances of employees and to build stronger companies and institutions. People became valued as an important resource within an organisation. Armstrong defined HRM as "a strategic and coherent approach to the management of an organisation's most valued assets – the people working there who individually and collectively contribute to the achievement of its objectives" (Armstrong, 2006, p. 222). Nowadays, employees are recognised as making a significant contribution to organisational success and HR becomes a strategic tool in the successful workings of any company or institution. HR managers now contribute to decision-making; they have a seat at the table so to speak.

McCaffery's The Higher Education Manager's Handbook offers excellent guidance on all aspects of the manager's role and provides the navigational tools to successfully operate within HEIs. (McCaffery, 2010)

HRM applied to HEI serves the same purpose: to build a strong and competitive institution and to achieve the objectives of the organisation.

"Specific services of HRM have been established and developed during the last decade. Universities as knowledge-based organisation have a strong focus on the quality of their academic staff, as they are responsible for teaching and research. Another important prerequisite to a successful university are their services, which highly depend on the quality of the administration and management. The quality of management and academia will depend on the quality of HRM and functions."

(Pausits, 2015)

?

Are needs for
new trainging
and skills
development
recognised by the
HR department in
your institution?

To ensure and maintain quality is of particular relevance in areas of transition. Thus, HRM is most important for the quality of doctoral education as a flagship product and core of universities' research strategies and objectives. New institutional responsibilities were created and changes in governance structures require new processes. The training and further professionalisation of supervisors are one example that illustrates the importance of HR measures. However, also for support staff, new training and skills development was needed to sharpen some skills and competencies. Moreover, new employees had to be attracted – based on new job descriptions – to professionalise the doctoral education support staff. HR departments can deliver great added value to HEIs to increase the effectiveness of doctoral education and the DE unit alike.

Guiding concepts in HRM

In this section three guiding concepts in HRM will be introduced before elaborating the specific job description of professionals in doctoral education, all of which are derived from data collected as part of the PRIDE project (see Annex 1 - Data Collection). The three guiding concepts are (i) strategy, (ii) organisation design, and (iii) job design.

Strategy

Strategy is a core, guiding concept within HRM and well defined and analysed in the research domain of HRM. Johnson, Scholes and Whittington define strategy as:

> *"The direction and scope of an organisation over the long term, which achieves advantage in a changing environment through its configuration of resources and competencies with the aim of fulfilling stakeholder expectations."*
>
> *(Johnson et al., 2008, p. 3).*

Armstrong (2006) in his analysis, makes further hierarchical distinctions between strategic goals, plans, management, and fit. He describes the specific procedures of HRM related to these specific levels, always taking the specific environment into account. Applied to doctoral education, the HR strategy should take the following connections and interrelations into particular consideration:

1. Trends and policy developments on international, national, and institutional levels.
2. Strategic goals and plans of the institution related to research and doctoral education.
3. Expectations of academics, influenced by their research strategy and discipline specifics.
4. External stakeholders' interests, in particular the non-academic sector, including research collaborators from the non-academic sectors as well as future employers of doctorate holders.

The strategic implementation of (new) goals always follows the flows of the organisation, be it a hierarchical or more horizontal organisation. Therefore, knowledge of the organisational design is crucial.

?

Are you familiar with the HR strategy in your institution and does it consider the four points mentioned?

Organisation design

The integration of a new strategic plan will be most successful if it enjoys the full commitment of both leadership and employees. Active implementation of the plan requires a defined and intelligible process in the organisation, which is described by Armstrong as the "design, development and maintenance of a system of coordinated activities in which individuals and groups of people work cooperatively under leadership towards commonly understood and accepted goals." (Armstrong, 2006,

pp. 319–320). A HE institution is a complex organisation; embedded in a national regulatory and quality framework while belonging and contributing to the global research community.

HRM can serve as the architect of an organisation or institution by defining the different tasks needed for the implementation of the (new) goal, the communication of the plan, the collaboration amongst stakeholders, and the need for new types of professions. This does not have to be exhaustive. The construction depends on the strategic plan and on the environment of implementation.

It is clear from Chapters 1 and 2 that HEIs are already managing organisational changes with respect to doctoral education; the most important being those effecting the organisational structure for the provision and support of doctoral education. Whitchurch (2006) mentions the generally observable shift in the identities of professional administrators and managers in universities; the borders between administrators and academics became partly blurred. This affected doctoral education as both are involved in the process of doctoral research support. This shift called for new identities and roles for each, and dual support for staff involved in doctoral education as well as supervisors as members of the academic sphere. Different administrative units in universities, purposely established to support doctoral education, need to adapt to this changing context. This is where HRM takes a guiding role.

Besides the design of the organisation HRM also deals with job design, which is briefly touched upon in the following section.

Lack of a new type of profession
Excerpt from a short story by Jean-Dominique Polack, Université Pierre et Marie Curie, Paris, France

Universities lack a new type of profession, at the intersection of the 'political' and 'administrative' spheres, in order to work towards the removal of the historic gap between these two spheres. This gap is the root of many misunderstandings, tensions; waste of energy, time and money; in short, big losses of efficiency in the development and implementation of public policies.

Translating a well-formulated political objective into the controlled operation over time of a set of concrete measures effectively implementing this objective is not easy. Up until recently, it was unusual to question the effectiveness of the instruments thus developed, not to speak of their efficiency. This has begun to change, as it becomes more and more crucial to master the design chain of politico-administrative instruments in order to justify the allocation of resources, avoid waste and above all ensure that the instruments fulfill their role.

Excerpt 5: Lack of a new type of profession, by J-D. Polack, UPMC, Paris, France

Job design

The basic concept of job design is about structuring the work and designating to it specific activities associated to the concrete job. In recent years, the approach to job design has evolved in line with the perspective of the employee as mentioned earlier. Although the ultimate purpose of HRM is to improve the working performances of employees and to build stronger companies and institutions, the narrow approach of productivity and efficiency was renewed based on the findings of applied psychology. With Herzberg's analysis it was made clear that intrinsic motivation works better than external incentives such as salary and number of holidays. Herzberg (1968) describes these different motivations as hygiene factors and motivation factors (explained in more detail in Box 6).

Frederick Herzberg (1923 – 2000) is an American psychologist and well known in business management for his Motivation-Hygiene theory, developed in 1959. The psychological side of employees became an interesting domain of research investigation into improving the working performances of employees and building stronger companies. Herzberg's theory of motivation challenges the uni-dimensional and sequential approaches of job design and job satisfaction based on a simple idea. Job motivation can be dichotomised into the following factors: (i) hygiene factors (such as salary, work conditions, status etc.), and (ii) motivation factors. Related to the question 'How can I be happy in my career?' Frederick Herzberg claimed that the most powerful motivator is not the salary or money (related to hygiene factors); instead, the most powerful motivators are the opportunity (i) to learn, (ii) to grow in responsibilities, (iii) to contribute, and (iv) to be recognised. Herzberg's theory is still appreciated and applied in business management theory.

Further reading on that topic: Christensen, 2010

Box 6: Frederick Herzberg's motivation-hygiene theory

It is clear that HRM has a crucial role in providing the job design that fits with the required knowledge and with the needs of the organisation. Besides the so-called hygiene factors, there are other motivating factors such as empowerment, teamwork, flexible working arrangements, autonomy and responsibility that are central issues in job design. A correctly defined job design is key to attracting the right applicants and decreasing job turnover. It is on the basis of this clearly defined job design that HRM can develop a job description that the organisation needs in order to attract and recruit talented people.

?

Are you aware of who is drafting the job design in your institution?

In the following section details the job descriptions of professionals engaged in doctoral education in a European context.

Job description and specification of professionals in doctoral education

Job descriptions in doctoral education

This section puts HR into practice in doctoral education and shows how HR can help a doctoral education support unit develop. It combines survey data and qualitative material from the PRIDE project (see Annex 1 - Data Collection), and the methodology of job descriptions developed by the Association of Universities in the Netherlands (VSNU) (Blok, 2005). The latter has documented job profiles of each position in academia up to the level of the dean.

A job profile includes the following:

- the goals of the position,
- the organisational context,
- the core activities, and
- the levels one can obtain within one position.

In the following sections, all these aspects will be detailed for a job description of professionals in doctoral education.

As described in Chapter 2 the general goal of the professional in doctoral education is to utilise specific, profound and holistic knowledge for the benefit of the doctoral education environment and beyond. It includes being institutionally embedded and connected to relevant networks, and continuously developing competencies, in order to contribute to the further development of doctoral education within the university/institution. To achieve these goals, several core domains of activities need to be executed. These core domains of professionals in doctoral education were derived from the PRIDE survey (see Annex 1 - Data Collection) and include:

1. Policy support for decision makers
2. Research support
3. Career development support
4. Consultation for PhD candidates/supervisors.

The domains are further detailed in Table 1 and further commented on in the next pages. The second column in Table 1 mentions the legal and regulatory frameworks, both external and internal, within which the professional has to work and/or be aware of to perform these tasks. Column 3 describes the expected tangible outcome as a result of a successful execution of tasks by professionals in cooperation with relevant partner(s). These tasks are listed in column 4. Finally, the last column refers to the skills, knowledge and behavioural competency requirements expected within each of these main activities.

Core domains[a]	Frame[b]	Result[c]	Tasks	Skills, knowledge[d] and behavioral competencies
			Policy support	
Develop and maintain a policy plan on DE	Policy of university / department (depending on the context)	Adapted policy plan based on the input of an objective assessment of the needs of doctoral candidates and further developments in DE	Contributing to policy development on different level within the university	Project design and project management
			Supporting management of doctoral schools/top management	Networking
			Supporting university boards, committees	Analysing data
			Quality control/assurance	Consulting and advising
			Preparing, monitoring and evaluating data in the field of DE	
			Networking with (non-)academic partners and other stakeholders	Knowledge of global, regional and local trends in the field of DE
			Dealing with legal issues in doctoral education	
			Supporting curriculum development	Knowledge of doctoral supervision
			Initiating and managing third party funded project on DE	
			Assessing, developing and maintaining the trends in doctoral education	
			Contributing to the national and international discourse on DE	

Table 1: Generic job profile of a Professional In Doctoral Education (DE) - An example

a: Developed in the PRIDE Survey Report, see also Box 7

b: The legal and regulatory (external and internal) frameworks the professional has to work in and/or has to be aware of to perform these tasks (regulations on doctoral education, governmental regulations etc)

c: The expected tangible outcome as a result of a successful execution of tasks by professionals in cooperation with relevant partner(s)

d: Skills, knowledge and competencies needed to perform the tasks per domain

Core domains[a]	Frame[b]	Result[c]	Tasks	Skills, knowledge[d] and behavioral competencies
			Research support	
Provide support and training of doctoral candidates in research-related topics	Scientific integrity policies/Policies of (national) funding bodies	In collaboration with faculties/ departments: doctoral candidates well-prepared for performing excellent and international competitive research	Supporting/organising and delivering lectures and training on research protocols/issues/methodologies Facilitating interdisciplinary exchange Introducing good scientific practice and research ethics Supporting PhD candidates with grant applications Consulting PhD candidates on publishing strategies Preparing MA students for a PhD Supporting PhD candidates with their research design Optimising the understanding of research communities and its traditions Facilitating peer-activities	Knowledge of Research ethics and integrity, IP and funding bodies

a: Developed in the PRIDE Survey Report, see also Box 7
b: The legal and regulatory (external and internal) frameworks the professional has to work in and/or has to be aware of to perform these tasks (regulations on doctoral education, governmental regulations etc)
c: The expected tangible outcome as a result of a successful execution of tasks by professionals in cooperation with relevant partner(s)
d: Skills, knowledge and competencies needed to perform the tasks per domain

Core domains[a]	Frame[b]	Result[c]	Tasks	Skills, knowledge and behavioral competencies
Career development support				
Provide support and training of doctoral candidates to prepare them for various careers	Internal and external HRM-related regulations	Optimal preparation for academic and non-academic careers among doctoral candidates	Supporting/organising and/or delivering training courses in science communication, managerial skills, career coaching etc.	Knowledge of research ethics and integrity, IP,, funding bodies
			Facilitating secondments in non-academic sector	Networking
			Advising PhDs on career topics	Cooperating
			Looking for (research) partners from non-academic sectors in cooperation with internal services (in order to organise job fairs, internships, etc)	Teaching skills in training
			Establishing relationships with potential employers	Knowledge of HR development
			Covering integration between academic and non-academic labour markets	Knowledge of science communication
				Knowledge of academic and non-academic labour markets

a: Developed in the PRIDE Survey Report, see also Box 7
b: The legal and regulatory (external and internal) frameworks the professional has to work in and/or has to be aware of to perform these tasks (regulations on doctoral education, governmental regulations etc)
c: The expected tangible outcome as a result of a successful execution of tasks by professionals in cooperation with relevant partner(s)
d: Skills, knowledge and competencies needed to perform the tasks per domain

Core domains[a]	Frame[b]	Result[c]	Tasks	Skills, knowledge[d] and behavioral competencies
			Consultation for PhD candidates and supervisors	
Support and consultation of PhD candidates and supervisors that requires specific expertise in doctoral education	Doctoral regulations on university level – faculty regulations	Well-performing research units International collaboration Well-informed academics	Giving advice to professors/academics/junior researchers on complex queries Consulting and/or supporting PhDs on funding issues Mediation of conflicts between supervisors and PhD candidates Practical organisation of events and workshops Consulting PhD candidates on administrative aspects of DE Financial management Developing information material Supporting mobility of PhD candidates Consulting international PhD candidates on VISA issues, housing etc. Offering supervisor training	Knowledge of internal regulations and policies regarding DE Event management Conflict handling

a: Developed in the PRIDE Survey Report, see also Box 7

b: The legal and regulatory (external and internal) frameworks the professional has to work in and/or has to be aware of to perform these tasks (regulations on doctoral education, governmental regulations etc)

c: The expected tangible outcome as a result of a successful execution of tasks by professionals in cooperation with relevant partner(s)

d: Skills, knowledge and competencies needed to perform the tasks per domain

A more detailed account will be provided of each of these domains, explaining what is meant by the core domain, what are the legal frameworks under which one must operate, what the expected results are, and with which specific tasks these targets can be accomplished. The tasks listed per domain are not exhaustive. To be considered as a professional in the field one does not need to tick all the boxes. Depending on the institutional context, some of these tasks can be distributed between several professionals, or several departments. The tasks mirror the heterogeneity within the field of doctoral education; some units may include, for example, mediation of conflicts, while this may be absent in other units/departments. In order to perform these tasks properly, one has to master the necessary skills, or engage in training in order to diversify their repertoire of skills in one or several domains. In the next section, the core domains of Table 1 are described in more detail.

The PRIDE project and the domains of activities of professionals

One of the purposes of online survey undertaken during the PRIDE project was to identify the various domains of activities of administrative staff contributing to the quality of doctoral education in their institutions. In order to describe the job profile of persons working in doctoral education, the respondents were asked about the following areas:

- which activities are they engaged in?
- what is their level of responsibility?
- which knowledge do they need to be able to do their job?
- which skills are required?

Information derived from the answers served as a basis for job profiles in this handbook. Of course, given the immaturity of this field of work and structures, which are still under development, it was a challenge to reach all contributors to the area of doctoral education. In that sense, the findings of the survey must be critically evaluated. Similarly, respondents were also asked about their skills and knowledge. This information is used later on in this chapter.

A detailed report is also available:
◇ http://phaidra.univie.ac.at/o:454075

Box 7: The PRIDE project and the domains of activities of professionals

Policy support for decision makers

Policy support for decision makers is one of the core domains of activities for professionals in DE. The legal and regulatory frame to operate in is largely depending on the context of the specific university or department the professional works in. One of the important aims of this domain is to develop and make use of an adapted policy plan based on the input of:

1. further developments in doctoral education in the institution, nationally or generally; and
2. an objective assessment of the needs of doctoral candidates within the institution.

Activities related to this domain are policy development itself, management of a doctoral school, consulting the top management, supporting university boards/committees, and quality control and/or assurance. Moreover, following the international discussion on doctoral education and, whenever possible, contributing nationally and internationally to the discourse on DE is relevant.

?

Who is involved in your institutions and what role do professionals play?

"… you have to find your own goals and your own ways and of course coming into a new institution first you have to find out how things are organised, who is important, what networks are there, and then to join in and build on that."

Focus group participant - Senior professionals

"I see the people on this side can be really change agents for PhD education; they can be the driving force in changing routines, in making the systems more easily and having good overviews."

Focus group participant - EUA-CDE committee

Research support

Research support as a core domain refers to providing support and training of doctoral candidates in research-related topics. The legal framework that needs to be accounted for when providing this support includes scientific integrity policies, policies of (national and international) funding bodies, and institution/faculty-specific regulations. These activities are offered so doctoral candidates can perform excellent and internationally competitive research and participate in interdisciplinary collaborations. In this way, professionals give doctoral candidates a better understanding of the research environment by making tacit knowledge more explicit.

Depending on the designated role given to the professionals, this can extend from promoting interdisciplinary exchange and supporting training on research skills, to supporting PhDs with their research design.

However, sometimes a limitation factor might be that this requires discipline-specific knowledge, which is impossible to master for all disciplines. However, introducing good scientific practice and research ethics or supporting PhDs with grant applications, are tasks that can be provided more generically. Consulting PhDs on publishing strategies and preparing MA students for a PhD can also be recognised as activities suited to DE professionals. Relevant tasks also concern better understanding research communities and facilitating peer interactions.

?

What kind of generic research support can be easily provided by professionals in your institution?

Interuniversity collaboration
Excerpt from short story by Karen François, Vrije Universiteit Brussel, Belgium

It is within this Interuniversity Council that we started a new working group on doctoral education, doctoral training and doctoral schools. This is our think-tank where we discuss, create, innovate, and invent. It is also the place where we quarrel and squabble. All university institutions have their own rules, cultures and backgrounds, and sometimes this may be a reason for disputes. Collaboration within a context of diversity is challenging and we take time to discuss, to negotiate, to understand each other, to listen, and finally to create new initiatives. FLAMES, is one of them and we have PRIDE that we succeeded and still succeed due to patience and perseverance. After three years, FLAMES became a well know network that serves the needs of doctoral candidates.

Excerpt 6: Interuniversity collaboration by K. François, Vrije Universiteit Brussel, Brussels, Belgium

Dissertation Writing Groups
Excerpt from short story by Lisette Schmidt, University of Vienna, Austria

Doctoral candidates often spend a lot of time working alone and miss the exchange with fellow researchers. Especially at the University of Vienna we have the feeling that doctoral candidates are often only loosely connected to their faculty and do not feel integrated into everyday university life. We from the Center for Doctoral Studies strongly believe that early stage researchers need to be 'integrated into their community' to be able to do good research. This notion is backed by current research on existing Dissertation Writing Groups, which has shown that its members benefit in various ways from the regular meetings.

The Center for Doctoral Studies supports doctoral candidates to establish Dissertation Writing Groups, which can help counteract many problems arising from isolation. According to our experience, Dissertation Writing Groups, which consist of 4 to 5 doctoral candidates of similar disciplines and stages, are the most stable ones and good to manage. The groups we started so far (28 in total, since 2011) are very diverse. The main principle of each group is self-organisation: it is up to the group itself to decide when, where, how often and for which topics it will meet. The group decides individually what 'material' it will work on. This material ranges from (drafts of) chapters of the dissertation, to abstracts or presentations for scientific conferences, to empirical data analysis. (…)

One of our main challenges is reaching enough PhD candidates. We try to match the groups according to discipline, but sometimes we have only one person from a discipline and it takes quite a while until another person of this discipline signs up for a group. This creates quite long waiting times for people of some disciplines.

Another challenge is the high break-up rate. We normally start with 5 people per group. Usually it only takes a few months and the first two people have left the group for various reasons. We have invested more energy in trying to match the groups better, but this does not really lead to a positive result, as break-up reasons are more often of a personal nature. Sometimes the PhD candidates fail to inform us that they are about to leave the country. So far, our monitoring has not been systematic. The groups that have prevailed are perceived by the members as a real support group. "The Dissertation Writing Group is really helping me in bringing my work forward. The good ideas, the atmosphere and the ambitions of my colleagues are really contagious. The group helps me phrase my thoughts in a way, that I am better understood, also by colleagues who are not familiar with my topic", says a Phd candidate who shortly joined a Dissertation Writing Group.

In future, we would like to monitor the groups more closely and regularly contact them so that we can better understand the needs and problems of Dissertation Writing Groups.

Excerpt 7: Dissertation Writing Groups by L. Schmidt, University of Vienna, Austria

Career development support

Supporting and facilitating career development for doctoral candidates relates to the third main domain of activities. This should be and will be related to internal and external HRM-related rules and regulations, even though in many units an HR framework is still absent. Different strategies could be used to develop this core domain in doctoral education. Some institutions get an HR-specialist to handle these issues, while other institutions do not have the means or professional staff required to perform some of these tasks.

"… in Germany or going abroad, it doesn't matter … because afterwards about 90% of the PhD holders will go into industry … administration, jobs at ministry offices, whatever … So in Germany PhD would be something which is asked for in many jobs which need independent thinking … and would not be solely for academia … So… for all this there will be about half year post-doc, maybe … with which they then search for position … and preparing for leaving the university in the end."

Focus group participant - University top management

With offering these activities a doctoral education professional should be able to optimally support doctoral candidates in the further development of their (non-)academic careers. While many institutions cannot yet afford to attract an HR or labour market specialist to prepare these tasks, this is an area for further development and doctoral programmes will be confronted with the request to show that graduates successfully embark on a career of their choosing, after defending their dissertation.

As a first step, supporting and/or organizing lectures and trainings on transferable skills seems the way to go. It is more challenging, of course, to consult PhD candidates on career paths, to facilitate internships, to establish relationships with potential employers, and to look for non-academic partners. However, as careers of doctorate holders are diversifying compared to a few decades ago - see Chapter 1 - it is presumed that providing tools to prepare doctoral candidates for various careers will also become an increasingly important task for professionals. This can be addressed through more specialised training sessions on these topics that may be outsourced, but organised by the professional, and/or through in-house knowledge on the subject through further training of the professionals themselves. The latter will be elaborated upon in Chapter 4. In particular, the area of career guidance makes collaborations with internal and external partners crucial. In many institutions it is the grant office or technology transfer unit that maintains sustained relationships with external partners.

?

Have you ever thought about how to capitalise from existing partnerships with industry or other non-academic institutions, e.g. NGO's, museums?

While the primary focus of most industry-university collaborations is joint research, many have an impact on other areas as stated in a report of the Science|Business Innovation Board AISPL (2012):

"The partnership itself becomes a groundbreaking experiment in developing new skills for a next-generation workforce and a conduit for future recruitment of top talent."

Other examples on how to establish career support services are given in the boxes.

Career guidance | 1

Excerpt from a short story by Dr. Martina Van de Sand, Freie Universität Berlin, Germany

Bearing in mind that a relatively small percentage of 5-10 % of doctoral graduates will be able to obtain a permanent position at a university, it is important to give doctoral candidates advice, not only about career opportunities in academia, but even more importantly about alternative career paths in industry, and in the private and public sectors. Since 2013, therefore, the DRS expanded its Career Development offerings in general, in the frame of its Professional Development Program directed at doctoral candidates. In this context, the DRS launched two new initiatives to support careers of prospective graduates beyond academia: DRS Pro Business and DRS Pro Gründung.

Excerpt 8: Career guidance by Martina Van de Sand, Freie Universität Berlin, Germany

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Career guidance | 2

Excerpt from short story by Dr. Inge Van Damme, Dr. Stefanie Kerkhofs and Nele Nivelle, Hasselt University, Belgium

In summary, with this initiative (i.e. non-academic career guidance), we successfully bridged the gap between the university and non-academic sectors. The same or a similar formula can easily be applied in other countries, too. At Hasselt University, the organisation was in the hands of the doctoral schools, but other departments could take the lead as well. Collaboration with an employment office like VDAB (Flemish employment office) and organisations like ICL (Innovation Centre Limburg) is definitely an added value, but even universities themselves can realise a similar initiative. Also, research discipline doesn't matter, as HR representatives from all possible sectors are typically happy to help. They get something out of it as well: They get into contact with young potentials who might become future employees.

Excerpt 9: Career guidance by I. Van Damme, S. Kerkhofs and N. Novelle, Hasselt University, Belgium

Entrepreneurship
Excerpt from short story by Dr. Gavin Boyce; University of Sheffield, UK

At the end of November 2011 the University of Sheffield launched the Research Enterprise Innovation Fund with the aim of supporting activities designed to help our PGRs and Early Career Researchers to become more enterprising. The rationale behind this approach was: in order to encourage a culture of enterprise in our doctoral training, the University should support bottom-up projects and ideas rather than impose top-down training and structure. In essence our approach to support the development of enterprising doctoral students should itself foster enterprise. (…)

In total 22 projects were supported using EPSRC funding (see here for details ◇ http://www.sheffield.ac.uk/ris/ecr/reif) specifically targeted at the enhancement of entrepreneurship transferable skills training.

Excerpt 10: Entrepreneurship by G. Boyce, University of Sheffield, UK

Consultation for PhD candidates and supervisors

The fourth domain of activities refers to consultation for both PhD candidates and supervisors. The legal and regulatory framework (see Table 1) includes the doctoral regulations in force, as well as faculty and institution specific regulations. The aim of the domain is to develop well-performing research units, well-informed academics and to boost international collaboration and mobility. These might seem to be routine executive tasks, but to operate well, the professional needs knowledge of specific mechanisms within the university. Such tasks range from consulting PhDs on administrative aspects of doctoral studies and supporting them with funding issues, as well as developing information resources, to more specific tasks such as 'mediating conflicts between supervisors and PhDs' (see Excerpt 11, page 54). The latter goes beyond the mere dissemination of information and requires additional skills set to prepare professionals for this task.

?

Do you have a clear communication strategy so that incoming doctoral candidates easily find their way in your institution?

"They understand the pain and the trauma and the challenges that those doctoral students are going through, and they are absolute gold dust, those people are so important ... and I see more and more the academics rely very heavily on those important people, and I think that .... that is a big change ... it is a change to the way we're thinking about doctoral education, and therefore gives us an opportunity to say, well those people need to be more valued, and they also need to probably be permanent positions within the universities, because they are real, as I say they are a glue ... between those supervisors ... those people are the key people ... it is not the person who is the (PI) who is running the project, is not actually the supervisor, is that person ... who is acting as the glue between the graduate school and that particular project."

Focus group participant - EUA-CDE committee

Resolving conflicts

Excerpt from short story by Brigitte Lehmann, Humboldt Graduate School, Berlin, Germany

To face the problem of conflicts arising between doctoral students and supervisors or other team members, Humboldt Graduate School had developed a format called conflict consultation based on independent, neutral mediators. The mediators are highly trained and have an academic background; their respective professional work is closely linked to academia and to the support of young researchers. However, they are not associated with the university at all. The conflict consultation is open to all doctoral candidates at Humboldt-Universität and – if requested – anonymous. The sessions take place outside the daily workplace and are kept strictly confidential. The range of support covers counselling, coaching, or mediation for strained relationships concerning the doctoral studies. Constructively dealing with stress and problematic relationships can improve the general atmosphere, strengthen the working relationship, and promote productive academic work that stimulates discussion. Professional conflict consultancy can be helpful in situations where communication has broken down and important issues can no longer be addressed openly. It helps the doctoral candidate to take a step back in order to analyse the situation and to develop potential courses of action. Coaching can significantly improve the participants' way of dealing with difficult situations with an alleviating effect. If all parties involved in the conflict are willing to participate in a mediation process this may also be initiated as a further means. Mediation provides a framework for all parties to find beneficial solutions.

Excerpt 11: Resolving conflicts by B. Lehmann, Humboldt Graduate School, Berlin, Germany

Function levels

There are several levels a professional can work in, depending on several factors, including years of experience in doctoral education, specific knowledge, the organisational structure of the university etc. These different levels of maturity are further specified in Table 2. From someone starting as a professional, different job responsibilities are expected than from those with long work experience in the field and having developed specialised knowledge and skills to fulfil the job on a higher level.

> *"Administrative staff who are the secretaries, they do the filing, they do the rules, they do the regulations, everything, they tend to be lower level grades, lower level pay, but there are some senior administrators who actually lead them and head up the whole divisions, make sure the universities are kept on track, then we have the higher academic professionals what we call them senior managers and those senior managers are responsible for a particular area of the university."*
>
> *Focus group participant - EUA-CDE committee*

Although this quote refers to the larger framework of university tasks and levels, it also encompasses the diversity of tasks and levels of maturity that are possible for professionals in doctoral education according to the PRIDE model: from pre-professional, largely preoccupied with executive tasks; to a senior professional, largely coordinating his/her team and setting out the lines for policies in doctoral education on the long term.

Three levels can be identified in Table 2 that will briefly be discussed. A doctoral education support unit may consist of members of all these levels. In many institutions professionals must combine several levels, e.g. taking up senior tasks while also being responsible for more routine tasks. This can be related to a limited budget that hinders the affordability of hiring multiple professionals, or because of deliberate decisions from higher university management not to invest in this field. These levels should not be viewed as a linear process, but as a continuous one, in which professionals can be working across several levels at once. A doctoral education support unit for example, might have invested in in-house trainers to increase the quality and efficiency of research support and reaching a senior level in this core domain, while career support remains 'under-developed'; occupying a junior level.

Getting from one level to another in the different domains depends on the profile of the professional: the specific and/or specialised knowledge they bring to their job, and the skills they still need to develop. Chapter 4 introduces several tools to develop professionals in this context.

Level / Domain	1 Pre-professional	2 Junior Specialist / Generalist	3 Senior Specialist / Generalist
Policy	Proposals for improvement directly related to processes and procedures within DE Policy development on the short term	Supporting management of doctoral schools/top management at institution Preparing and analysing quality assurance/evaluating data Policy development on mid-to long term	Managing doctoral school Advisory role in quality assurance (Strategic) Policy development on the long term
Research Support	Coordinating and administering lectures/training in research issues	Broadening, maintaining and evaluating delivery of doctoral programme lectures/courses in research issues Acting as an intermediary between different services/departments within universities Proposing new initiatives/offers/projects	Coordinating delivery of the doctoral programme Networking with non-academic partners and introducing them into DE Approving new initiatives/offers/projects

Level / Domain	1 Pre-professional	2 Junior Specialist / Generalist	3 Senior Specialist / Generalist
Career Development Support	Coordinating and administering lectures/training in career topics and transferable skills	Broadening, maintaining and evaluating delivery of doctoral programme lectures/courses in career coaching and transferable skills Acting as an intermediary between different stakeholders beyond universities Networking with non-academic partners	Coordinating delivery of the doctoral programme Networking with non-academic partners and introducing them into DE Approving new initiatives/offers/projects
Consultation	Responding to PhD/supervisor queries on administrative issues and consulting specialists/generalists if needed Practical organisation of lectures/training	Analysing specific complex queries of PhDs/supervisors within a certain area of DEa Acting as mediator between different stakeholders within institutions Exchanging information with other units/departments	Coordinating queries to staff Professional support and supervision of colleagues Approving new services

Table 2: Professional maturity level

Pre-professional – level 1

A pre-professional is characterised by the execution of administrative tasks and only takes up a small share of the tasks set out in Table 1. He/she will mainly focus on policy development on the short term; usually in areas related to regulations and procedures within DE and the institution as a whole. This kind of professional is especially common in teams relatively new to the field of DE, that have only recently taken on doctoral education tasks, or in institutions making the shift towards professionalisation of staff. However, in larger teams, employees new to the job with potential but a lack of knowledge, experience or skills specified in Table 1 will also start at this level. These staff will often take up the practical organisation of workshops and lectures and will be the first contact point for doctoral candidates/supervisors concerning issues that do not require a lot of specialised knowledge.

Specialist/generalist junior – level 2

A next maturity level for professionals in doctoral education is that of the junior professional. The junior professional is more experienced than the pre-professional, be it because of experience on the job in level 1, or through experience in an academic function (e.g. doctorate holder) or elsewhere. They can develop policies in doctoral education on the mid- to long-term, making use of (international) best practices and information from networks, perform basic data analysis, quality assurance and support of the management of the Doctoral Schools, or the top management of the institution.

While the pre-professional is preoccupied with the practical organisation of the workshops, the junior professional ensures that the programme addresses the demands of the doctoral candidates. They are in charge of managing small/short-term projects and propose new initiatives. Furthermore, junior professionals often support more complex queries received by pre-professionals, by contributing alternative opinions based on their increased level of experience within certain areas of DE. They are well connected within their own institution as well as beyond it.

The distinction between generalist and specialist also becomes relevant at this level. The generalist takes up a large share of the tasks set out in Table 1, having specialised knowledge in different domains that are needed to perform well in doctoral education. The specialist however, has profound knowledge and/or experience in one specific core domain. Institutions running a dyed-in-the-wood Doctoral or Graduate School might have an elaborated team at their disposal, making it possible to divide the core domains between several professionals.

"I'm not specialist in any of these things, so I have to take care of the budget even if I do not know all of the details of preparing a budget, I have to deal with communication, I have to deal with international problems, with international students, so when I for example meet the other head of other offices they are always very, very specialised in their field ... while I know a lot of things from different fields, and so sometimes these is a problem because I cannot understand all the tiers and all the things, on the other side is something that I like a lot so not be specialised in a narrow field, and so my problem is ... learning by doing, that I'm not a specialist and all the things I have to deal with."

Focus group participant - EUA-CDE committee

Specialist/Generalist senior– level 3

Senior professionals, working in the highest level are thinking about the long-term planning, and in some cases, even manage the doctoral/ graduate schools themselves. They primarily coordinate a lot of the tasks set out in Table 1, rather than executing them. They regulate the doctoral training programme in the institution – often in cooperation with academic partners – and maintain relations with an international network. They coordinate queries of staff and give professional support and guidance.

"... those with a non-academic contract of course they have, can have, a high competence in being into this discussion by trying to solve some of the challenges but they will always, in our system, they will always be dependent on the academic side ... they will always have to have in a way a yes from the academic side before they can implement something on a larger scale, if you understand that ..."

Focus group participant - EUA-CDE committee

"They can manage the administrative personnel, but they can also speak the language of the academics, and their professional development is key to successful doctoral education, also a key to successful modern university."

Focus group participant - Academic directors

Professional team
Excerpt from short story by Sina Henrichs, University of Basel, Switzerland

The first diss:kurs event was initiated in October 2014 with the overall aim to give doctoral students in Basel a platform to present their exciting research projects to a broad audience. During one afternoon participants are given the opportunity to gain insights into the latest research projects combined with information about doctoral services at the university. The event is also meant to attract interested students for a PhD thesis in Basel. With its interdisciplinary approach the diss:kurs is an excellent format for bringing people from different scientific backgrounds, higher education professionals, representatives from the University rectorate and, ideally, the society together. […]
To initiate a project like the diss:kurs you need a team of two responsible project leaders with strong communication skills to act as a contact point for students, trainers, and the various stakeholders. The project team needs a good network and a good overview of the University infrastructures. A professional communication office and a graphic designer help to advertise the initiative, and to attract guests from inside and outside the University.

Excerpt 12: Professional team by S. Henrichs, University of Basel, Switzerland

Skills and knowledge requirements

Skills and knowledge requirements were only briefly touched upon in the previous chapters of this handbook. They are however, key to perform the tasks outlined in Table 1. There is a difference between skills and competencies. On the one hand there are behavioural competencies that define behavioural expectations, i.e. the type of behaviour required to deliver results under headings such as team-work, communication, leadership and decision-making. They are sometimes known as 'soft skills' (Armstrong, 2006). On the other hand, there are technical competencies that define what people have to know and be able to do (knowledge and skills) to carry out their roles effectively.

"Competencies represent the language of performance. They can articulate both the expected outcomes from an individual's efforts and the manner in which these activities are carried out. Because everyone in the organisation can learn to speak this language, competencies provide a common, universally understood means of describing expected performance in many different contexts. Competency-based HR is primarily based on the concepts of behavioural and technical competencies."

(Armstrong, 2010, p. 170)

For doctoral education this can be expanded in three groups: knowledge or basic information, skills and behavioural competencies. Knowledge of internal regulations and policies, (inter)national and local legislation; and global, regional and local trends in the field of DE, is indispensable for this kind of job. However, also understanding doctoral supervision, research ethics and integrity, funding opportunities and job markets,

and career opportunities for PhD holders must be considered as relevant knowledge in this field. This underlines the role as professional acting very close to the academic sphere as described in Chapter 2.

Important skills for the doctoral education field include project design and management, advising and consulting, change management skills, facilitation skills, conflict handling and mediation, teaching and training, and heuristic skills. So far, training courses are most frequently organised by the doctoral education support units, but delivered by external trainers. With an increase of professionalisation of staff this may change, so that teaching and training also become increasingly relevant. In the long run, staff development in these areas will help institutions to save resources while maintaining quality.

Behavioural competencies, finally, include communication skills, both oral and written, planning, organizing and monitoring projects, cooperating and devising inventive solutions to problems. They closely relate to the day-to-day tasks of professionals in doctoral education. Depending of the size of the team and the function managerial skills, a conceptual and analytical capacity, capacity to learn, organisational sensitivity, and networking might be relevant.

?

Are you aware of tools helping you identify your strengths and areas for development in relation to your competencies?

Methods for developing these skills and competencies will be elaborated in Chapter 4.

From HR strategy to development
The changes mentioned in the previous chapters have forced HEIs to reform their administrative systems so that they can function as complex service organisations, while blurring traditional boundaries between organisational hierarchies, roles and functions, and academic and administrative work. Challenges in the core academic activities have required the establishment of supporting services delivering specialised support and advice, in order to increase effectiveness and efficiency. Due to these new structures and processes, the internal organisation of universities has become increasingly complex and the understanding and management of the interaction mechanisms between academic work and administrative coordination and support has become a major challenge.

As a consequence, professionals have established themselves as hybrid workers, crossing traditional functional areas and developing new fields of knowledge (Whitchurch 2008). In doing so, they have become highly esteemed and valued experts in their new functional area, centralizing a lot of rare, implicit knowledge and specific expertise, though at the same time they present a risk for the potential loss of this knowledge, in the case that they leave their role or, worse, the institution. Moreover, when trying to recruit professionals, it might appear to be extremely

difficult to find new hires that sufficiently match the requirements of these vacancies.

Anticipation of these risks requires acquisition and consolidation of knowledge, good management, and sharing initiatives that can support onboarding and further professionalisation of (junior) HE professionals through training, development programmes, and learning on the job.

The following chapter describes staff development of professionals in doctoral education. From a strategic perspective it is key to equip your team with all the knowledge, skills and competencies (briefly touched upon in this chapter in Table 1) that are needed in order to perform the tasks within the core domain of your job description. Several processes can be introduced and modified to achieve this (Walton, 1999), and Chapter 4 will describe these processes using pedagogical tools.

Given the significant evolution of professionalisation within the functional area of doctoral education (support), the relevance of an integrated and structured development approach - addressing strategic and operational challenges of the institution on one hand, and the individual needs of the professional on the other - cannot be emphasised enough.

4

Staff Development

by C. Silva Pinto, E. Caetano, J. Marques &
P. Rosado Pinto
Universidade NOVA de Lisboa

This chapter focuses on Professionals' personal and professional development in the context of Doctoral Education, emphasizing the importance of combining individual development needs and institutional goals. Additionally some terminology is clarified and different staff development approaches, as well as the conditions for an effective staff development policy, are discussed. Different pedagogical techniques to support staff development programmes will be examined. Further reading suggestions and useful web resource links are also presented.

Introduction

As illustrated in the previous chapters, professionals are key components in today's Higher Education Institutions (HEI). Universities could not function without the assistance of these staff members working at different institutional levels and fulfilling a variety of roles, from strategic decision making to process based execution. For a deeper analysis of the subject and definition of the various role(s) of these professionals in Doctoral Education, see Chapters 2 and 3 of this handbook.

In what way is internal continued professional development encouraged in your institution?

A modern university is nowadays encouraged to prepare its workforce to meet future challenges and must adapt to an array of changes that were broadly discussed in previous chapters. Thus, investing in specialised staff becomes a priority and sets the continuous professional growth of individual employees at the top of the agenda. Providing professional development opportunities for staff is also important, as it establishes a clear message that staff contributions are valued (Duncan, 2014). In fact, opportunities to access and engage in training and development are a common attribute of attractive workplaces.

Staff development is also strongly linked to employee empowerment. Following Quinn and Spreitzer (1997), an empowerment process of these professionals could be enhanced by varied, yet complementary institutional approaches:

Which of these five items can you recognise in your institution?

1. Sharing information about the organisation.
2. Providing an organisational structure with a clear vision, organisational goals, and identifiable individual roles
3. Developing a team-based alternative to hierarchy that is capable of providing guidance, encouragement, and support.
4. Offering relevant training opportunities.
5. Rewarding employees for the risks and initiatives they are expected to take.

This chapter focuses on the fourth suggestion, dealing with the institutional offer of relevant training opportunities to empower professionals, by supporting their personal and professional development.

It should be emphasised that other issues raised in this chapter are integral to the supporting factors described at the end of Chapter 2. Furthermore, this chapter takes a pedagogical approach focusing mainly on staff development techniques that complement the human resources management factors discussed in Chapter 3.

Readers should keep in mind, that these are not hard-and-fast guidelines, but examples of what can be applied to individuals, team leaders, or professional development offices, in order to respond to the training expectations of both institutions and professionals.

Staff development and higher education institutions

As described extensively in Chapter 1, there is a multitude of demands placed on higher education today; from students, businesses, governments, communities, non-profit organisations, and others. To cope with these demands HEIs have changed dramatically. They are expected to produce world-class research and contribute to solving grand societal challenges. Moreover, they have to respond to educational needs of new student and doctoral candidate populations. These stunning challenges combined with increasing financial constrains have had, and will have a considerable impact on the work and role of each individual employee working in related areas within HEIs. The work of professionals in doctoral education is thus affected by:

"… in order to be a professional, you have to understand that there are some things which are outside your research, there are social contexts - social circumstances - and social goals which you should address … so I think, you should be also a kind of conscientious citizen, as well."

Focus group participant - University top managament

- The need to be responsive to changing policies of their institutions or governments.
- The call for greater awareness of international perspectives in the context of doctoral education.
- The need for more international, inter-institutional co-operation, often with the private sector.
- Growing awareness of the new institution's role in society.
- The increased expectation for universities to contribute to national development, and/or local communities.
- The growing emphasis on future career perspectives of doctorate holders.

? Have the training needs of the non-academic staff been identified in your institution?

These are reasons why professionals in different hierarchic positions working in HEI, namely doctoral schools, have specific training needs related to the changing demands of today's HE system.

Difficult to describe and sometimes mistakenly situated in a strictly individual domain, staff development is still a vaguely described concept. However, it can be viewed as the process of acquiring and/or developing knowledge, skills, and attitudes required for a specific professional role, and necessary both to accomplish institutional goals and purposes, and to grow personally and professionally (Blackwell and Blackmore, 2003). Staff development is therefore a deeply context-related concept (Ashmore and Robinson, 2015). This means that professionals have to be seen within a social, economic, and political environment and that their training and development programmes are also highly context dependent.

? Are you aware of the staff training and development programmes offered by your institution?

The PRIDE project and the training needs of the professionals

EUA trend reports (Sursock and Smidt, 2010) highlighted the rapid growth of the numbers of Doctoral Schools throughout Europe during the last decade. This factor was one of the main motivations for initiating the PRIDE project; to look more closely at employees in universities who are on non-academic contracts, but nevertheless contribute significantly to doctoral education in their institutions. To better understand the changes, a survey was undertaken in 2014 (see also Annex 1 for more details). The rapid growth suggests – as also reflected in the PRIDE online survey – that many professionals who replied to the survey, work in recently created units and are themselves, relatively new to the job. The majority, are between 30 and 50 years old and hold permanent positions. They are also highly educated - 90% holding post-graduate degrees, 56% of which are PhDs. Overall, 63% wish to maintain their jobs as non-academic positions within the HE area and almost all are interested in developing their skills and knowledge. A deeper characterization of the professionals is addressed in other chapters, namely in Chapter 2.

What professionals are presently doing and the identified training needs:

Chapter 3 already presented a detailed overview of the main tasks of a professional organised in four core domains: Policy support, Research support, Career development support, and Consultation and administration for PhD candidates and supervisors.

Also in Chapter 3, skills and knowledge, and behavioural competencies related to the generic job profile of a Professional in Doctoral Education were identified. In this area, professionals underlined specific kinds of needs:

• Related to the development of technical competencies (a need for self-actualization in specific domains of DE; global trends and international recommendations in DE, and need for specific competencies related to the job).

• Related to the development of behavioural competencies (a need for general/transversal competencies; creative and strategic planning and thinking, team-work, communication, and leadership).

Staff development pedagogical formats Professionals are used to:

The analysis of the answers to the question *How are skills and knowledge developed?* points out that half of the respondents often acquire and develop professional knowledge and skills following an individual approach (by informal learning or by reading relevant literature), or by exchanging experiences and information with peers and academics. Moreover 'taking part in projects' and in internal or external 'training activities' are also referred as important tools for acquiring competence in the doctoral education field. Taking part in staff mobility programmes is still a seldom-used professional development strategy.

Report on the PRIDE online survey
◊http://phaidra.univie.ac.at/o:454075

Box 8: The PRIDE project and the training needs of the professionals

Furthermore, there is a natural tension between institutional and personal needs, meaning that it is sometimes difficult to decide whether staff development should be constructed around compliance with institutional and national policies, or to what extent it should be under the control of the individual practitioner (Orr et al., 2015). Cullingford (2002) suggests that HEI need to accept and even embrace this tension and actively encourage and participate in negotiations regarding the development process of their staff. However, institutions are very diverse and different institutional examples can be found along a continuum from strong administrative, delivery oriented institutions where staff development are seen as 'training' for the job, to organisations with a solid learning culture based on mutual and reciprocal relationships between staff development and corporate strategy (Blackwell and Blackmore, 2003). This continuum emphasises the contrast between the concepts of 'training' (more episodic and detached from the context in which results are produced) and 'learning' (enhancement of capacity through contextualised experience gained by following a specific educational track).

Duke describes the ideal university as a learning institution where staff development:

> *"… will support learning on the job and in teams through work. It will provide mentoring, formal training, and reflective evaluative review and planning … which allow learning and tacit knowledge to be identified, shared and extended in pursuit of the university objectives".*
>
> *(Duke, 2002, p. 118)*

This social learning approach underlines the learning opportunities of everyday practice and the importance of 'communities of practice' (Wenger, 1998), a concept based on the apprenticeship learning model in which the individual, being embedded in a group of people sharing the same interests, learns how to better perform from the regular interaction with the other members of the professional group. A shift (or gradual evolution) to this kind of institutional environment may deal with other institutional issues related with the design, implementation, and sustainability of institutional change (Senge and Kleiner, 1999). Nevertheless, this shift seems to be of major importance, since reducing staff development to an accumulation of random training sessions has proven to be a poor solution to meeting both individual expectations and the goals of a changing, flexible organisation. Thus, however difficult it may seem, the most reasonable option seems to be a selective and strategic choice of staff development techniques and approaches, aligning different level objectives and harmonizing individual expectations with institutional aims and values.

Domains of development

Investments in personal development will enhance employees' personal qualities, which will positively impact on their overall work performance. These investments must follow an institutional strategy and reflect the support from the leadership.

"We placed a lot of attention … in …. upgrading the skills of the staff we already had … which traditionally … had a higher education on the bachelor level … but which of course, needed to be trained to deal with the new challenges … of graduate education but also with the growth of students, especially from other parts of the world."

Focus group participant - University top management

Rudman defines three distinct domains of professional development: education, training, and development. Accordingly, Education relates to the learning experiences, which improve a person's general knowledge and overall competencies. The process aims at the development of skills in a formal process and focuses on the person not the job (Rudman, 2002). Training is a process for improving an employee's performance for a particular job or task; it aims to build staff skills and capabilities that help an organisation meet its goals. Development is a blend of both education and training. Thus, providing training and learning experiences is the method of choice in order to strive for mastery and excellence, which sustains the employees' profession and their ability to work effectively in the organisation. Similarly, without a consistent staff development policy any organisation risks that staff members cannot contribute effectively to organisational goals.

Making it happen

Recommendations for effective staff development programmes

The literature recommends several conditions for successful staff development programmes. The first condition calls for alignment with institutional goals and values as a precondition for strategic influence (Blackwell and Blackmore, 2003). A further requisite is top leadership validation. However, this leadership normally relates to compliance with institutional rules. More important than compliance is commitment, and high levels of commitment seem to be more productive than simple compliance to management directives. Consequently, different types of leaders are crucial. Senge (2001) defined two main types of leaders. Line Leaders: people with accountability for results and sufficient authority to undertake changes in the way that work is organised and conducted at their local levels; and Internal Networkers: those who belong much more to the informal social networks of the institution than to the hierarchy. The strength of the latter is "their ability to move about the larger organisation, to participate in and nurture broad networks of alliances with other, like-minded individuals, and to help local leaders" (Senge, 2001, p. 17). Professionals in Doctoral Schools frequently assume these roles.

At what institutional level is staff development decided in your institution?

A second condition deals with HEI staff development units, which should be validated by the top leadership. These units, in order to be successful, need to work at multiple levels and with multiple approaches – top-down, middle-out, and bottom-up. Furthermore, a multidimensional approach is needed, offering specific training activities, as well as transversal institutional activities that can also be addressed to and attended by other members of the HEI (academic staff for example). The involvement of professionals in their own professional development process during the different stages remains mandatory as another condition for success.

Does your institution have a staff development unit or are you planning to start one?

A final condition, and one that concerns staff developers, recommends they be perceived to act with a sufficient degree of autonomy and be able to both receive visible and sustained support from institutional leaders, and to gain the trust and respect of senior staff and individual members of staff (Blackwell and Blackmore, 2003). To attain these goals the preparation of staff developers is crucial.

Main delivery problems of beginning staff developers

The first problem pointed out is fear of not being competent enough. To overcome this problem the authors recommend: preparation (have a detailed lesson plan, understand the material, and practice the presentation), and the use of ice-breakers (activities used at the beginning of the sessions aiming at relaxing participants as well as the instructor).

Difficult learners can be considered a hard problem to solve. During sessions, problematic learners (too talkative or, on the other hand, too timid) can coexist. Redirecting the participation of learners who are always trying to interrupt (refocusing the discussion), or small group work for the timid learners have proven to be good solutions.

Communication is another domain that has to be mastered by the trainers. Using different types of questions and knowing how to anticipate, paraphrase (in order to clarify what has been asked), or redirect questions can be very useful. Encouraging participation with open-ended questions or, on alternatively, breaking the large group into small groups or pairs are also strategies that can be used. Where communication is concerned, the adequate use of feedback is also crucial, along with prepared openings (to say what is going to be said) and closings (to summarise concisely and to thank participants).

Other qualities relate to timing (good planning and practice are recommended), and to the adequate use of media, facilities, and materials (to know, beforehand, how to use them remains mandatory).

(Knowles et al., 2005)

Box 9: Main delivery problems of beginning staff developers

A variety of staff development approaches

Staff development activities in HEI come in all shapes and sizes, from short information or skills training sessions to several days' long workshops and conferences, or to intensive residential training courses. These trainings can then be formal or informal, academic or applied, guided or self-directed, mandatory or voluntary and may follow different educational approaches, such as courses, workshops, seminars, retreats and other activities like job shadowing or peer-coaching. In fact, the expected learning outcomes along with the training environment, participants'

"… you have to see where skills are lacking, because nobody will come … , bringing along, all needed competencies, simply impossible, so you have to find out. Tailor-made solutions have to be found."

Focus group participant - Senior professionals

backgrounds and learning styles, and the experience of the trainer, all determine the mix of learning methods. Independently, some programmes may use internal trainers, whereas others invite external experts. Regardless, HEIs are requested to secure the sustainability of the programmes and should critically evaluate how much in-house know-how is available. This is particularly relevant for universities, that consider themselves as learning organisations.

Learning styles

Kolb defined four basic preferential learning styles related to experiential learning. The diverging style is typified by people who prefer to learn in a gather information/idea-generating atmosphere. They use imagination to solve problems and tend to work better in groups. Converging style types like to solve problems and to find practical applications for ideas and theories. They prefer practical tasks. The assimilating style describes those who like a logical approach and prefer to learn from ideas and abstract concepts. They prefer reading, lectures and having time to think before performing. Finally, the accommodating style - the 'hands-on' type – are people who tend to rely on intuition rather than logic. They are attracted to practical experiential approaches.

(Kolb, 1984)

Box 10: About learning styles

Staff development is presently on the agenda of many European HEIs. Despite the variety of formats present in different institutions, an important common consideration is that the institutional culture promotes an environment to empower professionals by supporting their personal and professional development.

?

People responsible for providing education and training can have different job titles. Do you know the responsible people in your HEI?

The selection of pedagogical techniques

As already stated, staff development programmes cannot be designed or delivered without institutional support, nor without taking individual needs and expectations, organisational goals, priorities and resources into account.

Once these conditions are considered, principles of instructional design are very useful in the selection of the most adequate pedagogical approach. These include the definition of clear learning goals, the selection of key content areas, the design of appropriate teaching techniques and the choice of adequate evaluation methods (see below).

Goals, priorities and resources of the organisation

Individual needs and expectations

+

PRINCIPLES OF EDUCATIONAL DESIGN
- Definition of clear learning goals
- Selection of key content areas
- Design of teaching techniques
- Choice of evaluation methods
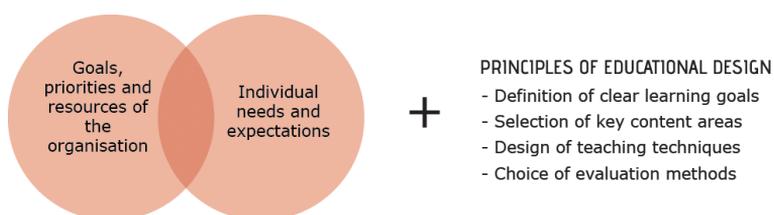
Figure 1: Planning staff development program

Only the alignment of these elements can assure the design of a solid educational program (see Excerpt 13, page 75).

Fostering responsible conduct of research
Excerpt from short story by Stefanie Van der Burght, Ghent University, Belgium.

In 2012, Research Integrity (RI) became an important policy issue at all Flemish Universities.

A comprehensive vision demands a comprehensive number of actions. Training was just one of the initiatives set up to foster daily research practice … . That is why we took all the time necessary to design a solid format. We had to answer key questions on what kind of training we had in mind. What should be the main characteristics? Who should be the trainers? What was the target group? Finding the answers had more to do with explicating our own beliefs and our organisational structure as an institution.

Who should the trainers be? The idea was to team up internally and use a train-the-trainer approach. … This approach would guarantee that in the future we would have a strong workshop format. We would not be dependent on external consultants (any more), nor on internal individuals (professors are often stretched as it is), as we would already have trained a first group of facilitators from the start, who in the future themselves may even start training others to deliver the workshop at our university. In that way, sustainability was guaranteed.

What kind of training did we have in mind? The training is meant to be an eye-opener for PhDs …. That is also why we call it 'workshop': no sit-back-and-relax lecturing but interactive discussion to refine the individual research skills.

What was the target group? At this point we focus on early career researchers (and the PhD students in particular). … The workshop is developed in a way it can easily be transformed to all those involved in research, including senior researchers, lab technicians and administrative staff. It is also our goal to reach out to them as well. There is already the possibility of a custom-made approach. We adjust the generic parts of the workshop to the specifics of the group.

What should the main characteristics of the training be? We chose a one-day workshop, delivered several times a year, to be able to discuss issues in depth. Because of the interactive character only small groups of researchers are allowed (15 max.). We use a mix of learning methods to try and get everybody inspired, adjusted to their personal learning style (David Kolb's Experiential Learning Model). That way everybody finds some parts of the workshop they feel comfortable with (adjusted to their learning style), but also parts that bring them out of their comfort zone (different from their own learning style). The workshop is voluntary. … The attendance numbers so far show that people are interested. (…)

Excerpt 13: Fostering responsible conduct of research by S. Van der Burght, Ghent University, Belgium

Furthermore, and in line with principles of adult education (Knowles et al., 2005; Schön, 1983), staff development programmes should try to offer:

- Experiential learning (to build staff development activities on the personal and professional experience of the trainees and to provide opportunities to practice and to train with supervision)
- Opportunities for reflection (either 'reflection-in-action' – thinking while doing - or 'reflection-on-action' in which practitioners become more expert in their profession when they take time to reflect on professional situations in order to refine their practice)
- Feedback (to provide the participants with knowledge of results about their attempts to improve).
- Immediacy of application (transfer of the learning experiences from training to the job situation).
- Reinforcement for appropriate behaviour and the existence of some kind of incentive system.

Take a look at Annex 2 for a toolkit on training methods, practical devices or techniques

While some individuals prefer to learn individually by reading relevant literature, others choose to 'learn by doing' and reflecting on their learning experiences. As one model does not fit all, staff development units are encouraged to offer a variety of training opportunities and training techniques. This is usually more effective than using only one approach and allows more employees to benefit. In fact, while some prefer to learn from experts, others tend to prefer learning from peers; using peer coaching or mentoring models accompanied by various support tools, such as individual development planning, portfolios or activity logs. Some choose work-based learning in their own institution (where job shadowing and job rotation can play a crucial role), while others can profit more from opportunities outside the organisation (see).

For some professionals, exchanges with peers and belonging to a community of practice are key elements in their professional development, while others would rather participate in specific training sessions.

Concerning training sessions, workshops are very popular because of their flexibility and promotion of active learning. They can integrate different educational activities; from instructor presentations (with different degrees of interactivity), to demonstrations/observations; from small group discussions, to individual exercises and assignments; and from role play and simulations, to case studies and field visits.

Depending on the amount of time allocated, staff development activities can occur within short courses (away-day-type activities, for example) or in integrated longitudinal programmes in which participants, while maintaining their professional activity, commit a percentage of their working time to their personal and professional development.

What is an Erasmus staff visit?
Excerpt short story by Allison O'Reilly, University of Vienna

The EU commission provides opportunities not only for students and teaching staff. *"Training opportunities are also available for teaching and non-teaching staff employed in an higher education institution."* …There are different modes of Erasmus staff exchanges, either an individual programme is set up, which includes meeting people and job shadowing, but it is also possible to take part in fully organised programmes by a university. The host university sets up a programme and invites a certain amount of people to take part in these training weeks…

What I would like to tell other people after this experience is that it is a great possibility if used and planned well. And how is it done well?

I would advise following: First of all think about what it is you need. What do you want/need to learn about?
Depending on your needs you may want to go on a training week, but maybe an individual stay is better. So check your options.
Identify the best partner. A good network is certainly a way to find out from whom you can learn best what you want to know. A good host can often be someone you have had prior contact with and where there is certain amount of mutual trust.
Be well prepared to get the best results from the programme. I spent a lot of time researching the website of the host institution, identifying people I wanted to talk to and let my host know, whom I was eager to meet. My host contacted the people for me, so that I, upon arrival, only had to arrange an appointment without explaining who I was. Prior to fixing the exact dates of my stay I checked for workshops and events, which were important to me, to be sure to be in Cardiff in the right weeks.
Be open to unexpected ideas. I had many points on my agenda, but also spoke to other people from the office for doctoral education, to learn what they were doing and learnt many things I did not expect. Such chance encounters lead to new ideas on my side.

Excerpt 14: What is an Erasmus staff visit? by A. O'Reilly, University of Vienna

Although some organisations offer short training sessions around specific themes, there is little evidence that 'one shot' courses produce any change in institutions. The ideal approach is to offer flexible and varied staff development opportunities; responsive to the developmental needs of the institution, and identified both by the services and by the individuals. While it is understood that training is important and necessary, it is also costly. Thus, any institution should seek to maximize the return on this investment and training must be as effective as possible in

order to achieve the expected goals. While different training methods are more thoroughly described in Annex 2, a brief comparison of the methods is given in Table 3.

The evaluation

Finally, it is state of the art practice that any learning activity is evaluated, in terms of impact, resulting learning, and application of learning. Each evaluation has multiple benefits:

- It raises the awareness and give rise to reflection.
- It illustrates the value that learning has for the institution.
- It combines the learning and the institution's strategy.
- It encourages future investments in training activities.

To get the most out of the evaluation, the selection of the most adequate evaluation tools aligned with the objectives and with the chosen learning strategies plays an important role.

In this domain an array of tools are available: end-of-session evaluations, follow-up survey questionnaires, pre-and post-assessment of cognitive and attitudinal change, direct observation of professional behaviour, and self and peer-evaluations.

Method	Useful for	Advantages	Disadvantages	Trainer's role
Brainstorming	Stimulating creative thinking Finding novel approaches Generating possible solutions Consolidating past learning	Promotes active participation of learners Uses learners' experiences and ideas Reduces conflicts as it helps participants to see other points of view	Time-consuming Some learners may be passive Requires high-level trainers skills Ideas produced can be unworkable	Record suggestions Reorganise into groups Lead discussion at end
Case study	Solving problems Changing attitudes Building analytical skills	Involves learners actively Allows sharing of learners' experiences with others Stimulates interest and discussion of concrete subject	Time-consuming to prepare Carefully prepare or read case and describes scenario Ask provocative questions Provide key issues for discussion Guide discussions Discussion may drift to areas different from those intended by trainer	Carefully prepare or read case and describes scenario Ask provocative questions Provide key issues for discussion Guide discussions

Method	Useful for	Advantages	Disadvantages	Trainer's role
Discussion	Stimulating interest and thought Generating possible solutions to problems Consolidating other types of learning Creating an informal atmosphere	Stimulates learners' interest Involves learners actively Allows sharing of learners' experiences with others	Time-consuming Requires learners to have facts about the topic Needs to be well controlled to have value Can be dominated by a few Some participants may remain passive	Establish small groups early in course Help groups select moderators and rapporteur Clearly specify tasks for each group Assign time limits and enforce them
Intervision	Reflection Solving problems Exchange of know-how	Promoting peer culture Uses learners' experiences and ideas	Proposed suggestions can be unworkable Listening can be painful	Take control of the procedure Guide discussions

Method	Useful for	Advantages	Disadvantages	Trainer's role
Lecture	Passing on information	Allows much material to be delivered in a short time For a large number of participants Lecturer is in full control	Lack of trainee involvement Lack of feedback to the trainee	Provide information Answer questions
Role Playing	Developing interactive knowledge and modifying attitudes Introducing humor and liveliness into training	Stimulates interest Is fun Is active Uses participants' experiences Encourages active participation and feedback	Time-consuming to prepare Observers may be passive Some key points may not be addressed Only for small groups Those engaged in role-playing may learn more than observers	Encourage participation Choose a suitable story to illustrate key points Debrief (discuss insights gained from role-playing)

Table 3: Comparison of various training methods

5

The Future of Professionals

by G. Winckler, T. Ekman Jørgensen,
I. Capeloa Gil, H. Lindquist, P. van der Hijden,
C. Lauritano, M. Kovačević, C. García & C. Belmonte

Various authors have contributed to this final chapter. An over-arching theme in the emergence of professionals in doctoral education, and their essential contributions to the reform of doctoral programmes across Europe, is that there is no single path to success. In fact, a diversity of approaches has enriched the field and facilitated the development of entirely new professional careers in higher education. This final chapter brings together commentaries and first-hand experiences of professionals and higher education leaders, who have been involved in the growth of this field. These personal stories and analyses consolidate the state of the art of doctoral education, they remind the reader of the roots and backgrounds of the reform process in doctoral education, and address future challenges and opportunities for professionals dedicated to ensuring continued growth.

Doctoral education: Quo Vadis?
by Georg Winckler, University of Vienna,

The emergence of a European consensus on doctoral education

In June 1999, European ministers responsible for higher education agreed to substitute the complex and uncoordinated diversity of national study architectures for a common European structure. This agreement became known as the Bologna Declaration. of 1999. It recommended bachelor-master degree programmes as the first two cycles in each participating country. The Bologna declaration, however, left open what should happen with the third cycle: the doctoral programmes.

Four years later, in September 2003, the ministerial conference of the Bologna states in Berlin gave priority to the development of a common three-cycle degree system, now including the doctoral level. At that conference, ministers wanted to link the nascent European Higher Education Area with the making of the European Research Area. As a consequence, topics such as doctoral education or 'early stage research' moved into the centre of political awareness. A Bologna Follow-up Seminar on Doctoral Programmes for the European Knowledge Society, organised in Salzburg in February 2005, was intended to serve as a vehicle for recommendations on doctoral programmes for the next ministerial conference of the Bologna states. As it turned out, this Salzburg seminar in early 2005 was in fact prepared by the European University Association (EUA), as it fully met the self-conception of universities to tie higher education to research.

Not surprisingly, the EUA was the main organisation to work out a consensus in Salzburg. This consensus was formulated around a set of ten basic principles. Based on these Salzburg Principles, and on the results of further deliberations in Nice in December 2006, the EUA, finally, reported to the ministerial conference of the Bologna states in London in May 2007. As a result, the ministers concluded in their London Communiqué: *"We therefore invite our higher education institutions (HEIs) to reinforce their efforts to embed doctoral programmes in institutional strategies and policies, and to develop appropriate career paths and opportunities for doctoral candidates and early stage researchers. We invite EUA to continue to support the sharing of experience among HEIs on the range of innovative doctoral programmes that are emerging across Europe as well as on other crucial issues such as transparent access arrangements, supervision and assessment procedures, the development of transferable skills and ways of enhancing employability"* (pts 2.16 and 2.17 of the London Communiqué). Along these lines, in 2008, the EUA established the Council for Doctoral Education, which is now the most important European platform for discussing institutional strategies on doctoral education, and for giving advice on supporting

doctoral programmes by a professional and effective administration at the university level.

Old structures

When the Bologna Declaration was signed in June 1999, doctoral programmes in many universities across Europe were still based on a 'privatised' relationship between a supervisor and a doctoral candidate. Structured programmes with introductory courses hardly existed. Universities had nearly no rules for the supervision and assessment of doctoral research. In general, the start of a doctoral education would consist of two, rather informal steps: (1) a doctoral candidate would propose a dissertation topic to a supervisor, (2) the supervisor would accept the topic and notify the office of the faculty. In the sequel, it was mostly up to individual actions of the candidate whether the research on the dissertation topic would result in relevant and new insights. The supervisor would only marginally follow the research efforts of the candidate. From time to time, without following any rules, the supervisor would be informed by the candidate about her/his findings.

As a result, doctoral programmes worked quite differently across Europe, varying from country to country, from university to university, from faculty to faculty and, even within a department, from supervisor to supervisor. The relevance and quality of a doctoral thesis were highly variable. Formally, it was at the discretion of a dean to care for quality by nominating a second supervisor from within or from outside of the faculty. In practice, however, the second supervisor (or a second opinion) was mainly picked by the dean on the advice of the first supervisor, thereby signaling that the decisive element of a doctoral program was the 'privatised' relationship between the candidate and the supervisor. If problems occurred, be it that the research topic was too general or research results too difficult to obtain, or that the candidate got frustrated when doing research, then the doctoral education stopped mostly informally, without any feedback to the faculty or university as to why problems were encountered. Unfortunately, since many such problems occurred, many doctoral projects failed. As a consequence, there was a squandering of talent and energies and a vast loss of opportunity.

Overcoming old structures, based on the new European consensus

US top universities have demonstrated with their PhD-programmes that early stage research can be more effectively organised and that PhD candidates can be better guided to enable them to contribute to frontier research. Structuring doctoral programmes, forming competitive cohorts of candidates, managing PhD programmes through professional administration, and providing an adequate research infrastructure, are key elements of institutional PhD strategies at top universities. In order to increase the financial attractiveness of the programmes and to professionalise the work of the candidates, job opportunities

must exist for them at the departments or centres at which the PhD research is undertaken. For US universities it is clear that offering PhD programmes is a costly affair. So only 200 to 300 universities, out of about 4 – 5000 higher education institutions in the US, are so called PhD granting institutions. A European estimate would come up with annual costs for a university of at least 40.000 € per doctoral candidate, if quality standards comparable to the US are to be met. As a rule, only part of this sum can be financed by third-party funding.

As the US example shows, universities offering doctoral programmes also need to have an effective administration that supports departments and research centres. The administration has to help with: selecting the candidates, organizing the research as well as the social infrastructure, providing opportunities to acquire transferable skills, and giving advice on career planning. In addition, the administration should regularly control the quality of the programmes. It is obvious that the administrative support of a university requires people who are experienced and efficient. As it becomes more and more important to recruit doctoral candidates globally, the administration should also seek to enrich appropriate intercultural competencies.

Given the academic strength of US PhD programmes, the European consensus on doctoral education much followed the US standards and practices. The main goal of European universities respectively of the EUA in the 2000s was to reverse the brain drain to the US at the PhD level and to attract new research talents from abroad. This goal has been achieved today to a certain degree and Europe has regained some competitiveness. However, newly challenged by East and Southeast Asian universities, ,uch has still to be done. Despite this, the consensus reached in the 2000s is a good base on which to further develop institutional strategies for doctoral education in Europe. In any case, it is good that an effective administration for doctoral programmes has been established, which can effectively support the doctoral programmes of European universities.

It is interesting to note that doctoral education has improved worldwide. The professionalisation of the Post-Doc phase has been significantly enhanced at many places too. Both changes have led to new career patterns at top universities. Top universities now, when striving for increasing their research strength, put less emphasis on hiring older, well established professors. Instead, they try to get the best PhD candidates and Post-Docs, and grant them excellent research opportunities in order to ultimately promote the best of them onto the tenure-track path.

The doctoral education professional as an asset and a risk

by Thomas Ekman Jørgensen, European University Association

European universities have professionalised doctoral education during the last decade. At the beginning of the 2000s, doctoral candidates were largely left to the supervisors, and their contact to the university as an institution would be limited to a few administrative obligations such as registration and handing in the dissertation manuscript (and in some countries, only the latter was in fact obligatory). Today, the role of the institution has increased. Even if the supervisor remains the most important figure for the doctoral candidate, there will be institutional support such as transferable skills courses, and behind the scenes, dedicated university staff will monitor recruitment, completion and time to degree. They will develop and review rules and guidelines, establish quality assurance procedures, and set out policies for different aspects of doctoral education. These are the doctoral education professionals.

On the European level, the professionalisation of doctoral education has had its home in the EUA's Council for Doctoral Education (EUA-CDE), a membership service for European universities wanting to develop their doctoral education. In this forum, the rise of the doctoral education professional has been clear. At the beginning, in 2008, the reform process was very much focussed on building structures and setting up the framework within which these professionals would work. One incentive for these reforms was the Bologna Process, which had included doctoral education as the Third Cycle in 2003, and in 2006, adopted the Salzburg Principles as a guide for developing doctoral education. By this time, Doctoral education had become a strategic priority for universities, drawing the attention of vice rectors and rectors responsible for planning and implementing the changes. At the first meeting of EUA-CDE in 2008, more than 200 participants came together to discuss doctoral education; about a fifth of them were rectors and vice rectors.

When EUA-CDE had its 8th Annual Meeting in 2015, this number had shrunk to less than one in ten. Their place had to a large extent, been taken over by Heads, Directors or Deans of doctoral education; persons with responsibilities linked to the management of the structures set up in the preceding years. This can clearly be seen as an indicator for the change of the professionalisation of doctoral education, from project to institutional reality. The PRIDE online survey gives a much clearer and more detailed picture of this group as professionals, who manage and developing doctoral education, as well as giving support to doctoral candidates.

There are many good arguments for the need of such a group within universities. Doctoral education has long lost its status as a pure research apprenticeship, preparing candidates for academia. The vast majority of graduates go elsewhere, and those that do continue on the traditional path will have very different working lives than their supervisors. Universities as institutions have become much more embedded in society and politics, not least since a very large part of each cohort passes through university, but also since universities have become an important player in the development of the knowledge society. This makes the apprenticeship model inadequate. Though growing as a researcher under supervision remains at the core of the doctorate, universities need to give additional support to ensure that they train future researchers for many sectors and – importantly for the new world of research. This entails training in open science methods and ethics, career development support, supporting ever more complex financing, and operating in a global research landscape. Few supervisors can ensure all this all alone; they need the professionals for extra support and as a link to the institutional policies (for instance regarding the use of open access repositories, gender policies, ethics etc).

Professionals are needed, but they also pose a risk. Setting up professional bureaucracies enhances transparency and predictability. Scholars of bureaucracy, back to the writings of Max Weber, have traditionally also pointed to possible degeneration of such systems. One of the risks is over-specialisation. Professionals that deal with transferable skills training, for example, might be wholly focused on that area and underplay all the other elements of doctoral education. Likewise, professionals dealing with counselling might think of the well being of doctoral candidates as the main purpose of the doctoral school. One could speculate that a disconnection from the strategic level of university management would lead to doctoral schools and their professional staff developing their own set of values and goals based on the activities of the doctoral school rather than the overall strategic goals of the university. In such a situation, quantitative indicators tend to become the goal rather than a form of measurement: impact factors become more important than the learning experience (particularly learning from failure), time to degree becomes a perpetual race for faster graduation, and ECTS credit requirements become more important than the skills gained. Luckily, as the PRIDE online survey showed, the link between professionals and university leaders has been maintained (about 90 % consults top management 'often' or 'sometimes'). Likewise, it is essential that there is a constant, open dialogue with supervisors in order to know what support is relevant, and to motivate supervisors take ownership of the changes that have happened within doctoral education.

No good intentions from the side of professionals will work without support from the supervisors.

Looking at the needs and risks relating to the emergence of doctoral education professionals, it is clear that if doctoral education aims at corresponding to the necessities of researchers' careers today, the pure apprenticeship model is inadequate. Professionals are needed. However, professionals should not degenerate into guardians of bureaucratic procedure, but rather emerge as facilitators of dialogue between different stakeholders, with an interest in the success of doctoral education inside and outside the university. As the recent EUA statement on doctoral education Taking Salzburg Forward puts it:

"Doctoral schools should establish continuous dialogue with researchers and doctoral candidates (,) become fora for exchange and agreement on good practice, and they should be the agent of change that implements good practice in a transparent way. Particular attention should be given to the systematic inclusion of the voice of doctoral candidates." (European University Association, 2016)

If doctoral education professionals could make this a reality, it would be a big step forward.

The trials of form: On the professionalisation of doctoral training

by Isabel Capeloa Gil, Universidade Católica Portuguesa

If knowledge is the keyword that defines the current status of progress in modern civilization, and associated with constructs such as 'the knowledge society' or 'the knowledge economy', doctoral education is arguably one its most important instruments. For research-oriented universities, the challenge is strategic; both for the advancement of its research and early career training agenda, but also for the development of standardised and measurable quality assurance mechanisms. Changes in doctoral education aimed at growing critical mass and moving towards increasingly wider collaboration require a new space, both at the institutional and human resources levels. The transformations tap into matters of culture – scientific and institutional – and organisation.

In Europe, over the past decade, broadening acceptance of the Bologna principles and policies directed at structuring the European higher education area, have had an enormous impact on models of academic organisation, prompting an overhaul of mechanisms related to quality control. Doctoral education has been traditionally regarded as the jeweled node of academic research excellence, but has meanwhile suffered from two contrasting evils: the first, that it constitutes an elitist bulwark of individualism; the second, and perhaps paradoxically, that it acts as the last resort of academic authoritarian tutelage. While knowledge production was the goal of the preceding academic culture, recent changes include, most notably: the shift from research as a lone endeavour, to a model of collaborative research, exercised within an organised community of knowledge. In addition, through broader access to doctoral training, the democratization of supervision procedures, and the increasing stress put on career orientation and placement, it becomes obvious that 'times are truly a-changin' ' for doctoral training.

With the proviso that national paradigms still rely on models of knowledge production, it is increasingly apparent that there has been a consistent movement within the European Union towards the formation of a more unified doctoral school agenda. The European brand of these new institutions, though inspired by the American graduate School model, is strategically distinct, mainly in that the European model separates doctoral education from other research or professional models of graduate training; both in terms of the funding structure and organisation. Specifically, doctoral schools have become full-fledged organisations, requiring standardised procedures for professionalizing the doctoral experience; from incoming applications, regulating academic doctoral training models (i.e. curriculum, supervision standards, assessment etc.), to providing outgoing counsel with regard to career orientation

and placement. These procedures provide a framework for the quality control of doctoral training. They enable the structural improvements to what was previously the natural, raw state of one-on-one supervision, as well as responding to the widening of access to doctoral degrees, while implementing mechanisms for the growth of HEI's without giving in to quality. Even in countries and institutions that are refraining from taking the leap into a full-sized Doctoral School, the implementation of quality mechanisms based upon this triadic pattern is becoming prevalent.

Critics may argue, that the new model of doctoral education in Europe, whose challenges were so well put forth in the Salzburg Principles I and II (2005 and 2010) , is placing form ahead of content. In fact, destroying singular geniality (for the arts and humanities) or academic genealogy (in the collaborative natural and exact sciences) to advance an agenda of massification and control by a new brand of actors: the new research and academic managers. The trials of form are nonetheless the trials of content as well. Without a strategic implementation of standardised response mechanisms to answer the increasingly complex challenges of current research - which is more often than not problem-based, transversal, if not downright interdisciplinary - the cultural challenges for integration faced by growingly global cohorts of students and not less their career expectations, there can be no good research, let alone ground-breaking doctoral dissertations. Professionals are thus at the heart of this transformation, as enablers of a 21st century brand of doctoral education.

Structuring, rationalizing, and organizing are keywords of quality control that do not typically suit the nature of academics. Arguably, because, there is still an overwhelming and somewhat romantic attachment to singularity, more so in the US model than in Europe. The notion of the academic's singularity and intellectual leadership is as old as the Socratic model and yet again one that is repeatedly evoked by Nietzsche in his work On the Future of our Educational Institutions. The philosopher compares the university to an orchestra, that would sound like a mimicry if the listener were untrained in musical taste. To fully enjoy the musical experience, the spectator/listener requires 'a genius in its midst', a conductor who would at the same time magnetize the musicians and energize the audience, and this: mutatis mutandis, is the role of the academic.

Obviously, the Nietzschean notion is clearly pervaded by a late romantic spirit of genius singularity; one which is undoubtedly contentious when applied to the university. This is no longer our model. Yet, despite the overcoming of academic charismatic singularity, the secret of our trade is the demanding pursuit of ways to advance 'the condition of Man', as Francis Bacon, ideally put it in The Advancement of Learning, in 1605.

And to do this well, academics require a new brand of experts to help them deal with the changing demands and expectations of early-career researchers. The key is not to undermine the lead scientist, but help him/her to perform their job better: to be a better supervisor, a better leader.

At my home institution, Universidade Católica Portuguesa, professionals are key in four main areas: internal quality assurance and support to each program director, internationalization and promotion of the program's visibility, monitoring of market needs, and career orientation. A microanalysis of one of the university's international programmes, the international doctoral program in Culture Studies at the Lisbon Consortium (http://lisbonconsortium.com) provides an insight into their role. In 2010, the university hired one professional to assist the program director, this number rose to two in 2012 and the team is now a total of four in 2016. Their roles are/were:

Internal quality assurance: Preparation and implementation of internal quality control assessment, support to curriculum change, support to application and selection procedures, and development of soft skill research and career oriented courses.
Internationalization: Development of media strategy and targeting of potential international markets.
Market needs assessment: Structuring of ties with prospective employers, and counseling on curriculum management for academic and non-academic employment.
Career orientation: Individual career counselling and soft skill workshops (cv, professional presentation, interview techniques, etc.).

The result of the implementation of a professional non-academic resource strategy, coupled with a demanding research training strategy and a systematic quality control was for this very specific programme, was a 300% rise in applications over a five year period, a success rate of 98%, and, in 2016, a situation of full-employment for doctoral graduates.

Trained in science and R&D management, usually PhD holders, and pursuing a career that is set on boosting the quality and thereby advancing the university's stake in the heavily populated field of higher education, professionals in doctoral education are essential to make high level training a resource and not a liability to the institution. Beyond the academic narcissism of small differences, it is important to recognise that the world is changing and that for the success of doctoral education in Europe, we all need to change with it.

The future of professionals in doctoral education
by Hans Lindquist, Malmö University

In my ten years as dean responsible for doctoral education at two different medium-sized Swedish universities, and as pro vice-chancellor for research and doctoral education at one of them, I have worked closely with, and indeed been dependent on, professional administrative staff. Sweden has had structured doctoral programmes for several decades, which means a notional study time of four years to graduation and a certain amount of course work – usually at least one year. Such structured programmes, just like undergraduate programmes, need a considerable measure of administration at different levels of complexity.

While the traditional secretary is a disappearing breed in Swedish universities (and sorely missed by many older lecturers and professors), there is a rise of a new, well-educated cadre of professional university administrators instead. Almost without exception they have a university degree, often in the social sciences or humanities. Part of this is related to the trend of new public management with its demand for planning, measuring, reporting and evaluation. In the ideal case, this will lead to improved support for university vice-chancellors and rectors in their strategic leadership, but also in their day-to-day running of the university.

In doctoral education, the need for professional administrative support is similar, but in some respects also different. The need for follow-up, data-collection, reporting and evaluation holds true, and can be carried out by the same sort of professional as for undergraduate education. But doctoral education is more complex than undergraduate education in that it includes original research. Since the research aspect has to be taken into account, it is crucial that at least some of the administrative personnel have a doctoral degree or even postdoctoral research experience.

The development of doctoral education and the number of doctoral graduates in any country is a political question related to research quality, scientific breakthroughs, and innovation. In Sweden and many other countries, the majority or a large proportion of the universities are state-owned or report to the state in one way or another. This means that a significant number of documents and reports have to be drafted and submitted each year. This is one task of the professional administrator. To be able to do this in a satisfactory manner he or she needs to be well acquainted with the current discussion in academia and politics, and also well informed about the views of the current leadership in the university. Collecting data, summarizing different views and presenting

strong arguments for his or her university, in a succinct and persuasive way, is an important part of the job.

Another aspect that distinguishes doctoral education from undergraduate education is the extent to which it is individualised. This means that even if you try to standardize and structure the programme to raise efficiency and transparency, there will always be innumerable individual cases that need specific attention. With highly skilled and experienced professional administrators, such individual cases can be taken care of, or, if necessary, well prepared before they are submitted to the dean or vice-chancellor for a decision. In the interaction with doctoral candidates and supervisors in such cases, it is invaluable for the credibility of the administrator that he or she has a doctoral degree.

There should be close cooperation on a regular basis between the academic leader in charge and the professional support person. Together, they will be able to develop the administrative framework of the doctoral programme or school and especially its quality assurance and quality development structures, which should always be in focus. Very often the administrator has served under several academic leaders and is thus a bearer of institutional memory. This is an important asset, since it will provide continuity to the operations. On the other hand, the administrator needs of course to be open to new ideas that are brought in by the academic leader, who may even have been hired to make changes in one direction or another.

To summarise, I believe that there is a bright future for professional administrators in doctoral education. They will be crucial for enabling universities to provide modern, relevant and efficient high-quality doctoral education. Together with academic leaders, they will comprise teams where individual qualifications and experiences are combined to create the doctoral education of tomorrow. Being a professional administrator in doctoral education is already an interesting career for doctoral candidates and will be even more so in the future.

Non-academic professionals – natural enemies or enablers?
by Peter van der Hijden, Brussels

In various organisations there is a natural tension between the core-task professionals and the supporting or enabling professionals. This is true for hospitals, law courts, the police, schools and universities. The core-task professionals complain that the other professionals are hindering them instead of supporting or enabling their work. Some core-task professionals are convinced that they could do a better job without the administrators and managers making their lives difficult. Without these armies of supporters and enablers, nurses could help more patients, judges could write more rulings, police officers could catch more thieves, and teachers could finally teach. These core-task professionals would be better off without having to fill in forms all the time and without being obliged to constantly monitor their 'key performance indicators'. In academia, some would say that the non-academic professional has become the natural enemy of the noble teacher-researcher; a natural enemy or a parasite, living at the expense of the prime actor. Without the core-professional there would be no need for all these enablers in the first place!

In the Netherlands, groups of nurses - a much sought after core profession - have taken things in their own hands. They have set up cooperatives with almost zero overhead, carrying out basic medical care for the elderly, without the usual layer of highly paid managers in expensive lease cars. University professors and groups of students could do the same; restore the medieval 'universitas' and organise the learning experience among them.

This is, of course, a romantic picture. Wealth and civilisation depend on a constantly evolving division of labour. No shoemaker bakes bread any more, bakers use machines to do so and even the non-academic staff at universities is nowadays outsourcing their own support tasks to external service providers, such as highly specialised digital student admission agencies helping the overburdened university admission officers.

Non-academic support at universities is not a new phenomenon. In Humboldtian days many professors had assistants recruited among their best students, who would an academic or non-academic career in this way. No few would succeed their boss or at least become their son-in-law! (Mulsow, 2016)

I have had the pleasure myself to work for ten years as a university administrator. My colleagues and I were categorised as 'non-academic staff', which sounded so negative that we were later on renamed 'support and control staff', which was a bit over the top. I was privileged to work

for the new Maastricht University; first at central level, as vice-registrar of the University Council, and later in the Faculty of Law as policy officer for research and the development of new education programmes. One of my last assignments in Maastricht was to set up a training programme for doctoral candidates. The government had decided to create many thousands of new PhD positions, in order to upgrade junior academic staff at the expanding universities and these young people had to be trained in research and teaching skills.

I then moved to Brussels to become a 'Eurocrat' at the European Commission, which, as some might argue, is to become everybody's natural enemy. In my view, the European Commission is an enabler par excellence. According to Article 165 of the Treaty on European Union, the Union shall 'contribute to the development of quality education by encouraging cooperation between Member States and, if necessary, by supporting and supplementing their action'. This is exactly what we did, through many policy initiatives, cooperation projects, and mobility schemes, not least Erasmus+ with thousands of mobile doctoral candidates every year, and the high-end Marie Skłodowska-Curie Actions.

I was lucky to be invited to work on the Erasmus programme, the Modernisation of Universities, the European Higher Education Area (Bologna Process) , and later Horizon 2020 and the European Research Area (ERA); the latter in particular as regards the career and mobility of researchers. One of my last tasks in Brussels was to work with academic experts on defining the European Principles for Innovative Doctoral Training. So I have gone a full circle and I still am an advisor to a doctoral school in my present life as independent expert.

Principles of Innovative Doctoral Training (European Commission, 2011)

The Principles of Innovative Doctoral Training (IDTP) of the European Union encourage institutions to acknowledge the important contribution of doctoral researchers in the creation of new knowledge. Research excellence, attractive institutional environment, internal quality assurance, exposure to industry and other relevant employment sectors, interdisciplinary research options, international networking and transferable skills have been defined as the seven principles. Being originally formulated as part of a Mapping Exercise on Doctoral Training in Europe, they have been approved by the EU Council for Education. Jointly with the "Salzburg II Recommendation of the EUA they are recognized as core documents for further discussion of doctoral education in Europe and beyond.

Box 11: Principles of Innovative Doctoral Training

The experience throughout my career was that you can only achieve things as a non-academic professional if you stay close to the aspirations of the academics. There is a natural tension between the two categories of staff, but also a natural complementarity. The non-academic colleague can translate the concerns of academics to the policy arena and the other way around. It helps, of course, if the administrator knows academia from the inside.

Professional drift is unstoppable. At a certain point, every group of professionals wants to have its own set of standards, a quality label, an annual conference, a secretary-general, a pan-European network and exchanges with similar networks in other continents.

The non-academic position has become a career path for many researchers who do not have the talent or the temperament to pursue an academic career. They themselves have become the subject of extensive research, publications, conferences, and indeed this handbook. The division, refinement and reshuffling of labour never ends.

I welcome the current professionalisation of the new 'professional in doctoral education', which will help these individuals to do a better job until new configurations and new challenges come about.

Future role of doctoral education professionals
by Chiara Lauritano, Politecnico di Torino

I started working on doctoral education in 2003, when in many European universities the modernisation process in this sector had just begun.

One of the first issues I encountered, was that the supposed background of a professional working in this field - specifically "people on non-academic contracts contributing to doctoral education"- should be broad and across-the-board, owing to the fact that doctoral education deals with education and research but involves also technology transfer and internationalisation strategies. Doctoral education has the potential to forge networks with the academic community, as well as training the future leaders of innovation. Managing doctoral education therefore, means evaluating all these aspects and interacting with different stakeholders, both national and international, inside and outside the academia, from public and private sectors.

In these last thirteen years, doctoral education has constantly improved and the universities have been working hard to develop its professional management. At present, institutions are being asked to train a new generation of researchers, able to face the scientific and technological challenges. Many countries have invested heavily in research, and this is why the expectations of society for innovation and economic growth area now a main issue for universities.

As the reform of doctoral education has progressed, the specific focus has moved from the research results to the researchers themselves: *"The main outcome of doctoral education are the early-stage researchers and their contribution to society through knowledge"* stated the Salzburg II Recommendations in 2010, meaning that the main aim of people working in doctoral education should be the training of a "*doctoral holder with specific research and transferable skills and experiences, which can be used in a wide range of careers"* (Byrne et al., 2013, p. 36) .

It is needless to say that the development of such a training environment requires a set of skills that cannot be claimed only by supervisors and doctoral candidates, but also by those professionals of doctoral education who can contribute the missing elements to complete the picture.

But how can this be done? How can all the required competencies to support this effort be gathered?

The reform of doctoral education has been characterised by the rise of dedicated strategic structures. Doctoral schools (referring to any kind of governance structures to manage doctoral strategies in the university) have become the main driver to manage all the facets composing doctoral education and this has fostered the creation of integrated teams of professionals with specific job profiles and tasks.

Thirteen years ago my impression was that working in doctoral education forced me to know a little bit of everything instead of being an expert in specific areas, because such numerous competencies were needed. At that time I realised that a team approach was the answer and, in my opinion, it will be the answer in the future as well. Professionals working in a doctoral school shall act as a team of highly specialised players, each playing a different role but in a well coordinated and integrated manner.

We haven't yet achieved all the goals of the reform process, and doctoral education is far from operating under routine practices. People working within this framework will be asked to be more and more professional in the management of early-stage researchers and structuring doctoral training to meet the expectations of society. It will be a demanding challenge, and to face with a team of trained and motivated players.

How to develop a support office for doctoral education
by Melita Kovačević, University of Zagreb

The story of the Office of Doctoral Studies and Programmes at University of Zagreb is a story on how to start, develop and sustain an institutionally supported, structure with the primary goal to provide support for the doctoral education and doctoral candidates in their pursuit of a doctoral degree. It is also a story on the (self) development of the staff working in this structure, and on the maturation of one idea from its rather vague form to a fully functional office and service.

The story begins in early 2009, as part of the wider series of changes in the doctoral education system at University of Zagreb, and the efforts of university management to change and modernise doctoral education and research. The goal of these changes was – through the introduction of university-level regulations - to bring doctoral education at the University of Zagreb in line with the universities that already have well established and functioning systems of doctoral education. Almost simultaneously, a new office was established: The Office for Doctoral Studies and Programmes. It's aim was two-fold: firstly, to provide a support to both doctoral programmes and doctoral candidates; and secondly, to provide university-level administrative support to changes in doctoral education.

At the beginning, two administrative staff members were hired. Neither of them had any previous experience in the area of doctoral education. They were outsiders to the system, which was itself only starting to develop At the time, this was not a surprise, since the area of work and the job description were completely new.

For the first few months, the Office performed mainly administrative tasks for the body dealing with doctoral education on the university level, gathered data on doctoral education at the University of Zagreb (only data on individual faculties existed and had not being synchronised), gained knowledge on the recent developments in the area of European institutionalised support for doctoral education, and established international connections with universities that had more advanced units for doctoral education. This last activity eventually turned into a long lasting cooperation and launched a joint project, but more importantly, fostered new friendships.

Over time, the scope of work and duties of the Office gradually changed, including more and more complex tasks with greater responsibility and the freedom of work. The Office started to submit proposals for national and European projects, while personnel working in the office

gained more and more experience and knowledge (one of the members enrolled in a doctoral study with the topic of change in doctoral education).

In 2010, the new University Regulations on doctoral studies were approved and adopted. The Regulations brought numerous changes to the system, which included obligatory workshops for all new supervisors; annual self-evaluation of doctoral candidates, supervisors and doctoral programmes; and the introduction of periodic evaluation of all doctoral programmes at the University. The Office has been involved in all of these changes and processes, contributing to the design of the tools and implementation of the methodologies to accomplish the goals of the University management. It closely cooperated with the Office for research, Office for transfer of technology and International office, and together has contributed to the better functioning of the university.

More recently, the Office started to organise regular courses and workshops for transferable skills development for doctoral candidates, ranging from scientific writing to intellectual property topics. In 2013, as part of the national scheme for qualification framework development, the Office managed to start a national project on additional (transferable) skills of doctoral candidates and introduce them as a part of the National Qualification Framework for doctoral candidates. The curriculum for personal and professional skills for doctoral candidates was developed, together with the recommendations on how to include this curriculum in Croatian doctoral programmes. With these project funds the Office was able to hire an additional person, bringing the total number of employees to three.

As with any process of change, the Office encountered numerous obstacles and challenges in its work. The first was the non-existent job description at the time of forming the Office. Since the Office was first of its kind - not only at University of Zagreb, but across Croatia - a number of very different skills and the accompanying knowledge had to be learned and mastered. For example, project application and project management skills had to be acquired, along with becoming acquainted with legal documents (laws, rules, regulations etc.), and understanding quality assurance methodologies and procedures in doctoral education. Some statistical and presentation skills, together with interpersonal skills for management, were also needed to assure smooth functioning of the Office.

Secondly, the whole doctoral education system of the University of Zagreb - including deans, vice-deans for science, heads of doctoral programmes, supervisors, teachers and doctoral candidates - had to be convinced that the central university office has its purpose, and that it can offer support where and when it is needed. This challenge arose

particularly from the fact that University of Zagreb is a conglomerate of independent faculties, where almost every faculty has its own support unit for doctoral education. But while those units were focused on the 'pure' administrative support for doctoral programmes including enrolment of candidates and keeping records, the Office for doctoral education was dealing with entirely different matters and had a different agenda. Its goal was to provide support services that were not available on the faculty level, and ultimately, a different approach to doctoral education. While the offices at the faculty level mostly considered doctoral candidates as one type of students - not very different from the students at bachelor or master level, or as people employed outside the university – the Office perceived them as young researchers and people at the beginning of scientific or business career. Doctoral candidates required a different approach and support services, unlike the purely administrative support they were getting in the process of acquiring a doctoral degree.

Additionally, the staff working in the Office never considered themselves as 'administrators' in the typical sense. They understood that a new approach to doctoral education requires a new mind-set and attitude of the staff practicing this approach, and that a diverse set of skills is needed for the job. The Office had to find its place in the greater scheme of doctoral education at the university, and it tried to position itself as a mediator between the faculty, namely academic staff-supervisors and doctoral candidates, and the management of the university. After a while, the Office was able to function more independently, providing: advice; information data and services, with less engagement of top management; and, in some cases, providing solutions to problems that had never before been encountered. This reduced the workload of the university management, and at the same time, justified the existence of the Office creating trust between the users - faculties and doctoral candidates - and the Office as provider of services.

After almost seven years of work, there are several experiences that can be shared with and serve as advice for others willing to start a similar support office at their university.

For example:
- Start small – the first activities were purely administrative, which soon changed into more and more complex duties, ultimately resulting in greater independence and freedom of work.
- Try to regulate things – include support services in some type of university regulations or guidelines and define duties and responsibilities – this assures longevity of the office/centre.
- Gradually include more advanced activities in the repertoire, allowing for staff to learn and improve – otherwise, problems could arise and will compound later on (unless you have highly qualified staff from the beginning!).

- Include your activities within larger national, or preferably international, initiatives – use policy documents, plans, and agendas for justification of your activities and creation of new ideas.
- Build trust – be effective, give answers fast and with precision, this will help build confidence in the office/centre. Even if the questions feel irrelevant, try to go beyond what is expected in your answer. Even if it takes more time and effort, try to learn and up-grade your information continuously.

Although the future of the Office is uncertain and susceptible to many elements that cannot be controlled, such s financing and policy perturbations, we hope that the experience of starting and running such a pioneering initiative, has left a trace in the collective understanding at our university of what doctoral education can and should be. We hope that at it has at least changed the doctoral education culture at the university, in such a way that any similar future initiatives will be much easier to implement, and will have a better chance of success. Most importantly, the Office can be utilised in the process of establishing a doctoral school at the university, with the future perspective of evolving into a central support service responsible for all aspects of doctoral education for all stakeholders.

Doctoral education and the non-academic sector
by Consuelo García & Carlos Belmonte, Fundación Universidad Empresa de la Región de Murcia.

Changing patterns

The potential growth and development of societies are related to the connection between public research institutions, and industry. Companies use the knowledge acquisition facilities and resources (human capital, ideas, academic and research collaborations) to scan the available local economic and market opportunities; identifying technological and market niches for exploitation and thereby driving the emerging transformation of the economy. Universities could therefore play a key role in defining a regional smart specialisation strategy. They can contribute to rigorous assessment of the regional knowledge assets, capabilities, and competencies, including those embedded in the university's own departments as well as local businesses. This concept is exemplified in the in the European Commission publication Connecting Universities to Regional Growth: A Practical Guide : *"The main focus on promoting the active engagement of universities in regions has been in terms of their contribution to Regional Innovation Systems (RIS). This has gained a new salience in the context of the advancement of the notion of regional 'smart specialisation' as a future focus for European regional policy"* (Goddard and Kempton, 2011, p. 2).

The Responsible Partnering Guidelines: For collaborative Research and Knowledge Transfer between Science and Industry, stated that: traditionally, the public sector's knowledge-generating capacity has *"been measured by the number and quality of publications and trained students that emerge. In this 'Open Science' model, researchers collaborated closely but often without too much regard to securing wider economic value and social benefits …"* (EUA. ProTon, EARTO and EIRMA, 2009, p. 8).

Today, more attention is being given to ways of valorising these benefits. One example is the re-organisation of advanced degrees such as doctorates, which involve joint supervision and provide a wider range of skills, to address industrial interests.

Accordingly, The European University Association (EUA) in this report, Collaborative Doctoral Education: University-Industry Partnerships for Enhancing Knowledge Exchange (Borrell-Damian, 2009) already indicated that collaborative doctoral education is of growing importance in Europe given the increased focus on innovation through research and development (R&D) in order to advance towards a more 'knowledge based economy' and the reality that a majority of doctorate graduates

are destined for careers outside academia in both research and non-research positions.

Nowadays, transdisciplinarity is also recognised to be essential for innovation. In this context, universities are unique environments that generate and incubate new ideas spanning a vast range of disciplines, all of which are upheld by high academic standards. It is this potential that is attracting the attention of R&D oriented business.

At the same time, the Green Paper on The European Research Area: New Perspectives (European Commission, 2007) established that it is crucial to prepare researchers for employment in industry and other sectors of the economy, and to open career paths between private and public sectors.

Both European and national level research, science and technology policies are increasingly emphasizing the importance of collaborative research between universities and the public and private sectors. Normally, it is assumed that universities have the potential to add human capital into businesses when recruiting university graduates. However, it is also extremely important to pay attention to the potential contribution of PhD professionals to the economy through participation in the non-academic labour market, mainly in business activities. Their high-level qualifications and knowledge can contribute important added value for European companies, Public Administration or NGOs alike.

The Responsible Partnering Guidelines: For Collaborative Research and Knowledge Transfer between Science and Industry (EUA. ProTon, EARTO and EIRMA, 2009) state that well-managed collaboration between public and private sector bodies benefits everyone. Taking a strategic approach to collaboration enables the development of radically new products and services and better innovation, thereby creating more value from the investments made and greater effectiveness as well as efficiency.

In this context, The DOC-CAREERS project: Collaborative Doctoral Education University-Industry Partnerships for Enhancing Knowledge Exchange (Borrell-Damian, 2009) was designed to obtain comprehensive good practice information, as a basis for recommendations on the development of collaborative doctoral programmes for the benefit of universities and other stakeholders, and to feed into policy dialogue in the area.

In this project, four specific issues were addressed:

1. The development of transferable skills and competencies in doctoral programmes, to enhance employability and career perspectives in private and public sectors;
2. The extent of existing university and industry collaboration in doctoral programmes;
3. Mobility Strategies for Career Development (inter-sectorial mobility and intra-sectorial);
4. Requirements for more systematic collection of data at the university level, to provide a basis for analysing the career paths of doctoral candidates.

University case studies from the DOC-CAREERS Project, highlighted a number of benefits from collaborative doctoral programmes, such as: promoting innovation, entrepreneurship and social responsibility, incorporating industry input to university research, gaining awareness of industry's technological challenges and contributing to sustainable funding for research. It is also important to emphasise that a large percentage of PhD candidates will probably pursue professional careers outside the academic environment, mainly in the business sector. Therefore, it is clear that the links between universities and the non-academic sector need reinforcement. This is especially true the case of Doctoral studies and the business sector, where a more structured and strengthened collaboration would provide mutual benefits for development in both sectors, with flow-on positive effects for society in general.

The concept of doctoral training for improved employability, is reflected in the First Principle of Conclusions and Recommendations from Bologna Seminar on Doctoral Programmes for the European Knowledge Society (Salzburg, 3-5 February 2005), it is recognised that "doctoral training must increasingly meet the needs of an employment market that is wider than academia". Therefore, in order to better address the needs of the employment market outside academia, it will be important to train PhD candidates in transferable and interdisciplinary competencies and skills. These skills include communication and presentation skills, writing skills, project and time management, human resources management, financial resources management, teamwork, risk and failure management etc. Industry seeks young researchers who are flexible, creative, communicative, entrepreneurial, and have good language, intercultural and social skills.

Flanders innovation and entrepreneurship

Flanders government (of the Dutch-speaking northern part of Belgium) is granting research funding and scholarships for young researchers on a yearly basis to stimulate innovation in Flanders. Therefore, Flanders Innovation and Entrepreneurship agency supports collaboration between universities and companies. It enables companies and universities/knowledge centres to tackle common technological issues efficiently and it allows them to develop internal know-how in close cooperation. The agency offers a wide range of funding schemes to support innovation via collaboration. An overview can be found at

◇ http://www.iwt.be/english/funding/subsidy/BM

Baekeland mandates are one of them. They support research that has clear economic objectives and offers added value to the company. The research has to be directed towards achieving a doctorate (PhD). In 2015, 30 Baekeland research projects were granted (for a total amount of 6.479K euro). All Flemish Universities are involved together with the following companies:

- ArcelorMittal Belgium NV
- BASF ANTWERPEN NV
- CRH STRUCTURAL CONCRETE NV
- DEROOSE PLANTS NV
- EVAL EUROPE NV
- JANSSEN PHARMACEUTICA NV
- APTEC DIAGNOSTICS NV
- Enervalis BVBA
- Studio Dott BVBA
- VENTO NV
- VK Studio Architects, planners and designers

All types of companies are eligible for funding (even non-technological projects). Flanders Innovation and Entrepreneurship agency evaluates the applications based on multiple criteria. Equal value is attached to the quality and the valorization of the research and/or development.

Box 12: Flanders innovation and entrepreneurship

Action plan – developing responsible and durable partnering
The DOC CAREER Project mentioned that the enhanced dialogue required to achieve more effective university-industry cooperation could be promoted on many levels. Investing in developing the soft part of the relationship – proximity for easy opportunities of meeting, one-tone dialogue, etc. – is essential and such platforms for dialogue should be developed: between university and industry; but also within university disciplines and industrial sectors, to favour trans-disciplinary and trans-sectorial exchange.

On the other hand, The Responsible Partnering Guidelines highlighted that achieving this positive outcome requires overcoming common difficulties such as diverging cultures and volatile relationships. One of the main challenges is to align interests sufficiently, so that people can concentrate on addressing their shared research objectives.
To develop the collaboration between both worlds requires the engagement of decisional bodies from each side; an understanding that the collaboration should be long-term; that it is undertaken voluntarily; and that each partner understands and respects what is truly important to the other.

In this context, Universities already have different in-house services that could be used in order to reach out the non-academic sector. Therefore, a first step would be to map-out all the services that the university can offer the business sector. A second step would then be to try to better integrate and connect these services with doctoral education so that doctoral schools could receive useful and value-added inputs from the other university services already in contact, and/or collaborating with business and non-academic sectors.

In general, in most universities the following business related services are present:

1. Consultancy Services: At universities, this service is usually focused on receiving requests from the business sector for specialist support in overcoming what is usually an immediate problem that requires a short-term solution. Nevertheless, there could possibilities beyond the short-term collaboration. Advancing research in the frame of PhD programmes could be used to developed medium or long-term collaborations that would have a greater positive effect on economic development and growth outputs. The use of this consultancy service would be beneficial for both sides. In the case of business sector, it would enable them to access the wide knowledge resources of the university and, being engaged with universities, would make the business more innovative and growth oriented and therefore have the potential to make a greater contribution to their local and regional

economy. This closer relationship with the non-academic sector benefits the Universities, by helping to embed university expertise within the private sector, thus demonstrating the practical impact of their research. As an added benefit to the university, businesses may contribute to the design of doctoral programmes, enabling them to become more market oriented.

2. Similar to consultancy are the Innovation Vouchers that enable small and medium-sized businesses to buy specialist support from knowledge-based institutions. These are aimed at facilitating the development of new products, services and processes. This could be also an excellent opportunity to finance some PhD Programmes.

3. Knowledge Transfer Centres: These centres may offer schemes that involve a PhD candidate working in a company with academic supervision during the research process. This often results a strategic advantage for the company, with academic benefits for the University and direct, valuable industrial experience for the PhD candidate. The activities of PhD candidates are also an important tool in disseminating research from universities into local businesses and communities.

4. Science and Technology Parks: Science and technology parks linked to universities, share resources, equipment and 'soft services', including the development of research in the framework of PhD Programmes. This would be also a good opportunity for collaboration and an additional way of partly financing PhD research projects. Science parks usually have formal and operational links with universities, and create a mechanism to commercially exploit research being carried out there.

5. Business Creation and Spin-off services: These services could be used to enhance the entrepreneurial spirit among PhD candidates. Encouraging PhDs to evaluate the commercial potential of their research outcomes could lead to new business ideas. Through links to these services, Doctoral Education could provide support to PhD candidates with entrepreneurial plans.

The inputs received from all these services would help to improve the contents and variety offered by Doctoral Schools and to make PhD studies and PhD holders more up-to-date with business needs, thereby contributing more directly to the growth and development of society at large.

Apart from the afore-mentioned in-house services, other external initiatives could be implemented to improve the links with industry in the field of Doctoral studies:

- Participation of business representatives in the in the design and implementation phases of PhD training programmes: These 'collaborative Doctoral programmes' are specifically mentioned in the DOC CAREER Project in terms of added value and outcomes.
- Creation of Mixed Peer committees (University-Business). There are still barriers to university-business cooperation that need to be addressed if Europe is to remain a knowledge intensive globally competitive economy. Universities and companies both need a better understanding of the benefits of cooperation. Therefore, regular meetings between human resources from both sides, including PhDs, seem to be crucial to create this climate of understanding.
- Bilateral mobilities from academia into business and vice versa.
- Activation of Programmes to integrate PhD holders in the labour market, like the public initiative 'Torres Quevedo' Grants in Spain.

Torres Quevedo Grants
Ministry of Economy and Competitiveness (Spain)

The Spanish Secretary of State for Research, Development and Innovation has a grant programme to Promote Talent and Employability. These grants are called Torres Quevedo Grant Contracts. The objective of this programme is to finance the salary and the employer's contribution to Social Security for PhD researchers recruited in a company, for a maximum period of four years.

This support should be applied to carry out, within the enterprise, additional R&D activities with the participation of the PhD candidate, who shall participate in the projects of industrial research, experimental development or viability studies.

Box 13: About the Torres Quevedo grant contracts

In this context, the DOC CAREER Project also mentioned that placements in industry facilities are seen as one of the most important contributions that an industry can offer to the training of a doctoral candidate wishing to obtain insight into the business world (e.g. from using business labs and participating in business meetings to having lunch in the canteen).

At the same time, the benefits of mobility are also mentioned in Principle 9 of the Bologna Seminar – Doctoral Programmes for the European Knowledge Society (EUA, 2005): *"Increasing mobility: Doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration within an*

integrated framework of cooperation between universities and other partners".

Mobility also covers interdisciplinary and intersectoral mobility. Doctoral candidates and young researchers should be encouraged to move from one sector to another (e.g., university – industry and back). Universities have to develop partnerships with different actors from different sectors, and build networks and collaborations based on institutional and international agreements.

In general, there are three areas where links between Doctoral studies and the non-academic sector could be improved: i) Adaptation of the content of doctoral programmes according to the needs of the companies; ii) Supporting the professional career of PhD holders in non-academic environments; and iii) Enhancing the transferability of knowledge produced by the PhDs holders to the companies.

These three potential working areas to reinforce collaboration between Doctoral Studies and non-academic sector are reflected - amongst others - by the conclusions of the DOC CAREER Project: "A common pattern emerged from the different formulae of collaborative doctoral programmes identified, characterised by seven main components: strategic level of engagement in the parent organisations, role of industrial partner, selection of the doctoral research topic, additional admission requirements, formal agreement (including Intellectual Property Rights), and legal status of the doctoral candidate".

Conclusions

In conclusion, the mutual benefits of the effective and long-term collaboration between universities and non-academic sector, mainly industry, are an unquestioned reality, as are their positive effects in the current knowledge-based society. The ways to structure such collaborations are diverse and they would need to be concretised by both actors.

The fact that such partnerships present many challenges, due to differences in objectives and strategies, means that collaborations should be built voluntarily between universities and business, ideally with a long-term goal in mind.

Finally, all successful relationships are based on mutual trust and understanding, rather than the expectation that one party should contribute to another's objectives.

Annexes

Annex 1 – data collection

This handbook draws from data which was collected in the framework of the project "Professionals in Doctoral Education: Supporting skills development to better contribute to an European knowledge society" (PRIDE). The project was funded by the European Commission DG EAC through the Lifelong Learning Programme, with a duration of three years, and kicked off in September 2014.

The PRIDE project consortium was comprised of ten partners:

- University of Vienna, Austria

- University of Zagreb, Croatia

- Network of the UNIversities from the CApitals of Europe (UNICA)

- Humboldt-Universität zu Berlin, Germany

- Mediterranean Universities Union (UNIMED)

- Vrije Universiteit Brussel, Belgium

- Comenius University in Bratislava, Slovakia

- Universidade NOVA de Lisboa, Portugal

- Fundación Universidad Empresa of the Region of Murcia, Spain

- Tallinn University, Estonia

During the lifespan of the PRIDE project data were collected through the following instruments:

- Online survey involving in total 222 professional in doctoral education, undertaken in 2014.

- Four focus interviews with different stakeholders within universities dealing with doctoral education (in total 18 persons, in groups of 4 to 5 people, lasting around 2 hours each) undertaken during the EUA-CDE annual conference in June 2015.

- 18 'Short stories' on relevant topics in doctoral education provided by invited professionals in 2015 (a collection of all short stories can be found here: http://phaidra.univie.ac.at/o:454076).

PRIDE online survey

An online questionnaire of 35 questions was disseminated in September and November 2014. The questions were structured along four big topics:

1. Current Situation (on the current organisational unit, position and future career intentions of the respondents and on previous job experiences).

2. Fields of activities, roles and responsibilities (main fields of activities, interactions and methods of interaction with other relevant institutions outside the university and other professionals in the field of doctoral education, initiatives and projects developed by respondents, self-perception as a professional).

3. Skills and areas of knowledge (importance of different skills, relevance of different areas of knowledge, relevant fields of further training/education).

4. Statistical questions (gender, age, highest level of education, country of work place).

Distribution

The survey was targeted at professionals in doctoral education. Potential respondents were identified on the one hand by contacting Vice-Rectors and heads of doctoral schools asking to name us the professionals in doctoral education at their university. On the other hand we did a broad online search throughout Europe for potential respondents and asked our networks to help us identify professionals in doctoral education.

Respondents

The total number of respondents was 222, representing a response rate of 33%. Two thirds of the respondents were women and one third men. We received answers from 29 different countries and regions, mainly European countries. The education level of the respondents was high: around 50% have a PhD, around 38% have a Master's Degree, around 9% have a Bachelor, and less than 2% completed Secondary School as their highest level of education. Most respondents (42%) are located in a graduate or doctoral school, followed by Research service units (16%) and Umbrella Organisations (13%). Only very few are located in Career Centres or International Offices.

Focus group interviews

The following four focus groups were conducted in June 2015:

- Focus group 1 (five persons): Academic directors of doctoral schools – this group included researchers with a management position, who are in charge of a graduate or doctoral school.
- Focus group 2 (four persons): University top management – this group included vice-rectors from European universities.
- Focus group 3 (four persons): Senior professionals in doctoral education – this group included only managers in doctoral education, who have extensive experience of working in doctoral education.
- Focus group 4 (five persons): EUA-CDE committee – this group included representatives from EUA-CDE steering committee.

Within the focus groups, these topics were discussed:

- EU and global policy in doctoral education.
- Trends in policy and strategy of universities.
- Internal university policy and effects on personnel working in doctoral education.
- "Personal story how to become a professional" and the management perspective.
- Different roles, responsibilities and skills of professionals, and their training needs.

Short stories

18 invited professionals gave insight into their working experience by writing a 'short story' about a relevant topic on Doctoral Education.

The purpose of these stories was to develop and demonstrate an understanding of a real-life case in order to learn from it. The focus of the short stories lies on doctoral education and try to serve as a good practice example for everyone working in the area of doctoral education. The writers could choose individually which topics or initiatives they wanted to address but were asked to write about something international colleagues can relate to, and which demonstrate an added value to doctoral education.

◇ http://phaidra.univie.ac.at/o:454076

Annex 2 – Toolkit on training methods, practical devices or techniques

	Definition
Case studies	Case studies present a situation in need of resolution. Participants will discuss it while they are given more details about the context, key characters, specific data and examples. Participants use this information critically and assess it to outline solutions and make recommendations. If you choose to write case studies from scratch, note that a typical case study has five main parts: • Executive summary – Identify the objectives and the challenge • Opening paragraph – Here it is fundamental to capture participants interest on the case • Scope – Refers to the background, context, approach, and questions involved • Presentation of facts – Presents an objective picture of the case • Description of key issues – Present perspectives, decisions of key characters
Conferences/ lectures	A lecture approaches one question or problem, normally hierarchically organised from the major to the minor points, from simple to complex concepts, from the particular to the general. Lectures are of great usefulness mainly to present or to systematise broad concepts and substantial information, as well as to learn from experts' experiences and guiding ideas.
Debriefing	A retrospective analysis consisting of sharing and examining information after an event has taken place. It aims at underlining the meaningful moments for participants in order to highlight the most important parts/concepts to retain. There are important steps to effectively debriefing during or after a session: 1. Setting up the debrief – what are the objectives and how it will be conducted 2. Conducting the debrief – link the purpose of the debrief to the session objectives, ask the right questions, promote discussion 3. Close up the debrief – summarise what has been discussed

	Definition
Feedback	Feedback is the information the trainer (or the supervisor) gives to the trainee about his/her progresses in order to achieve the intended learning objectives. Effective feedback must be: • Specific: Based on observable behaviour not on feelings • Timely: Given immediately so that specific behaviours can be recalled • Actionable: Based on something one can act on • Measurable: Objectives must be clear stated so one can understand them • Achievable: It must be realistic • Positive: Start with what went well and then talk about aspects to improve, not about things that went wrong • Non-evaluative: Based on facts not on interpretations • Future driven: Focusing the next steps
Individual Development Planning	Individual development planning involves professionals and trainers or supervisors discussing the work they are doing and documenting strategies to improve, develop and grow. The plan relies on the needs of the professional, his/her position and the organisation needs. It has to be achievable, practical, and realistic. The individual development planning process should be complemented with an activity log, a written record of how participants spend their time in specific professional activities. The analysis of the activity log, individually or in groups, will help participants to identify low-priority or low-value activities as well as strategies to improve their time management skills and consequently, productivity.
Intervision	Intervision, also known as intercollegial consultation, is a peer support format, which takes place in groups of ideally 5 to 10 colleagues without the presence of a professional counsellor. A help-seeking participant and colleague brings a case, the others counsel the help-seeking participant and try to find solutions for a specific issue following a strict procedure that is divided into phases: • presenter elucidates case and questions he or she wants to present to the other participants, 5 min; • participants formulate (only!) informative questions (15 min)

	Definition
Intervision	• presenter may reformulate questions to group • affectionate gossiping: participants discuss case, what matters here, which role does the context play, what is the role of other persons, what are the qualities and pitfalls on the side of the presenter. The presenter does not participate actively in this part of the meeting, only listens and makes notes (20 min); • each of the participants gives one advice (5 min); • presenter reacts: what is his or her opinion about the gossiping, which advices are interesting; which concrete steps will be taken (10 min); • plenary exchange of experiences by the whole group: what did the others extract from the case, the advices, etc. (10 min). For a successful intervision it is essential that procedure and methods are well known to all participants and roles and tasks are assigned (e.g. reporter, moderator, recording clerk) and switched from one session to another.
Job shadowing	An on-the-job training method, in which a new professional or a professional desiring to become familiar with a role/job, follows and observes a trained and experienced professional. It is very helpful for the development of knowledge, skills and experience as well as its practice in action.
Job swapping / job rotation	It involves changing positions and spending time experiencing different positions in the same or in different departments, or even in offices abroad. It is very useful to develop a wider array of skills.
Portfolio	It is a personal and professional development technique, in which professionals can plan and reflect in depth on their practice, by identifying their strengths and finding ways of building on them. It is not a random collection of documents, it is a story told by the Professional with what he/she sees as important in his/her personal and professional development. The design and presentation of the portfolio has to make sense to the Professional as well as to anyone else who might read it. Thus, there are different purposes and different ways for the use of portfolios in professional development: sometimes they are used in short periods of time integrated in a training program; sometimes they are maintained and regularly updated as the Professional moves forward through his/her career.

	Definition
Role playing	Refers to the acting out or performance of a particular a real-life role in a simulated situation. Role play implies learning by doing, observing, giving feedback, and engaging in an overall analysis of the total situation. Five types of role play are usually identified: • Improvisation: participants respond and act like themselves but in a different context. • Structured: a role to play is given to each participant with a set of clear instructions on how they should perform. • Prepared improvisation: participants respond and act like themselves but following a discussion about the characteristics of the roles. • Reverse role-play: participants play a different role from their own in order to gain insights about thoughts, attitudes, behaviours of others. • Exaggerated role-play: overacting the features of a character to highlight and discuss a particular aspect of it.
Supervision	One-to-one regular, structured encounters between professionals aiming at enabling the development of professional skills. Supervision forms part of the professional learning and acts as the foundation of reflective practice. It can take a variety of forms (including mentoring and coaching). It can occur formally or informally; on a mandatory basis or a voluntary one; in a hierarchic relationship or between peers. Types of supervision: • Professional supervision: regular, extended one-to-one meetings between established practitioners, mainly to discuss specific cases. • Informal supervision: opportunistic exchanges that are generally short and arise spontaneously in the context of everyday work. • Managerial supervision: supervision carried out by someone with direct management responsibility for the supervisee. • Remedial supervision: a form of supervision that takes place when there are concerns about someone's performance. • Mentoring: guidance and support offered by a more experienced colleague who acts as a role model.

	Definition
Supervision	• Educational supervision: organised supervision taking place in the context of a recognised training. This is the most complex form of supervision since the supervisor has to fulfill many overlapping and sometimes conflicting roles, such as helping to set learning objectives, establishing educational contract; facilitating learning; assessing the supervisee's performance.
Workshop	A set of activities designed to promote learning, discussion, and problem solving. Workshops depend on effective group discussions as the process of both expressing own opinions and experiences and processing the opinions/experiences of others can provide a broader vision and perspective on a specific theme or topic. For the development of group work and discussions the existence of a facilitator is crucial.

	Definition	Examples Free Platforms
Blog	A blog consists of a series of time-stamped entries posted by contributors, followed by comments by readers.	*Blogger, Wordpress*
Microblog	Microblog services allow users to send short text messages and multimedia content to their subscribers.	*Twitter, Tumblr*
Forum	A Forum creates a discussion on a particular topic by allowing commenting on posts, frequently organised in categories.	*myBB, Google Groups*
Social Network Group	In a Social network group, publications are published in a timeline, without any organisation by categories. To subscribe, you must be a member of the social network.	*Facebook groups, Linkedin Groups*
Social Network Page	A social network page is a public site inside a network platform where the editors share content with their followers.	*Facebook page, Linkedin page*
Wiki	Wiki allows multiple users to write and edit web pages in a database. A wiki can be public or private, moderated or freely editable.	*Wikispaces, Miraheze*
Collaborative Documents	Collaborative documents allow people to work at distance, but simultaneously in the same text. The document can be shared publicly or with selected people.	*Google Docs, Dropbox*
Website	A website is a collection of webpages available on the world wide web at a specific address, with content (text, images, videos,…) about a theme, person or organisation.	*Wix, Webnode*

Table 4: Web-based formats

Characteristics	Blog	Microblog	Forum	Social network group	Social network page	Wiki	Collaborative Documents	Website
Centralised in one person or team	+++	+++	+	++	+++	+	+	+++
Attention Span	+++	+	+++	++	+	+++	+++	+++
Update frequency	+	+++	++	++	++	+	+	+
Level of personalisation (templates, text formats)	+++	-	++	-	-	+	+	++
Length of texts	++	+	++	++	+	+++	+++	+++

- Null   + Low   ++ Medium   +++ High

Purpose	Blog	Microblog	Forum	Social network group	Social network page	Wiki	Collaborative Documents	Website
Share detailed content	+++	-	+++	+++	+	+++	+++	+++
Real time discussion	-	+++	++	++	++	-	-	-
Discuss a topic in depth	+++	-	+++	+++	+	-	+++	-
Search information to specific questions	++	-	+++	+	+	+++	-	++
Build peer communities	++	+	+++	+++	-	-	-	-
Build followers communities	+++	+++	+	+	+++	-	-	-
Write a text with peers	-	-	-	-	-	+++	+++	-
Follow a conference / event news feed	-	+++	-	+	++	++	-	-
Build awareness around a theme	+++	+++	+++	+++	+++	++	-	+

Table 5: Characteristics of web-based formats

- Null   + Low   ++ Medium   +++ High

Annex 3 – Toolkit on evaluation of learning / professional development

	Definition
Pre and post-assessment of cognitive and psychomotor skills and attitudes	An assessment tool administered at the beginning and at the end of a program in order to assess learning. It provides a concise and effective direct information and assessment to help improving learning. To elaborate pre and post assessment tools: • Look at each learning objective and develop a tool to assess participants' performance of the behaviour present in the objective. • Assure you can use the collected information to compare pre and post performances.
The development action plan	A development action plan is a systematic plan focusing on areas that participants want to develop in order to grow in their job or to advance in their career as they will be applying new knowledge and skills in their daily work in order to reinforce and improve their performance. It is extremely useful both for the participant and organisation growth. The key components of a development action plan are: • Setting goals: statements describing specific capabilities that one would like to acquire or develop, a task he/she will learn to perform. • Professional development activities: activities one will develop to support the achievement of the defined goals. • Performance expectations: indicates how participants will be held accountable for achieving their goals. • Resources and support needed: identification of the resources and support one may need to accomplish his/her goal. • Target dates: deadlines for when one will accomplish his/her goals. To use an action plan as an assessment tool: Gather a group in your department to help to design action plans for everyone. • Develop an action plan with important action steps. • Be realistic. • Review your action plan to check for completeness. • Fulfil your action plan. • Celebrate each completed task.

	Definition
Direct observation	A way to document activities, behaviour and physical aspects, specifically by observation of skills in practice. It can be used to document program activities, individual and group processes and progresses as well as outcomes. Some fundamental steps for direct observation are: • Elaborate and use observation guides • Elaborate a checklist of what you want to identify (the presence or the absence of behaviours) • Record your observations so you can analyse them later on. Data recording includes narrative notes, video or photographs, recording checklist, observation guidelines, and combinations of all of these.
Evauation of training sessions	A way to collect immediate feedback about the educational, training or development program. When applied, the end-of-session evaluation questionnaire gives information about participants' reactions, teaching and facilitation, program objectives achievement in order to know what went well and what have to be improved as well as to elaborate the program report. Some tips to elaborate end-of-session evaluation questionnaire: • Make it easy to fill in. • Don't forget to whom you are elaborating it. • Cluster similar questions. • Make it short. • Provide participants with time to fill it in. • Make it anonymous. • Afterwards, use the received feedback.

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Index

There is no doubt, that the last decade has been marked by changes in Higher Education. These changes have in some areas been accompanied by an ascent of Higher Education Professionals. But although the area of doctoral education has especially been affected by structural changes the roles of the strongly developing supporting staff in this area so far has been neglected.

We believe it is time to put Professionals in Doctoral Education under the spotlight. Who are they, what do they do, why are they so important?

This handbook intends to provide hands-on and practical information on the roles and activities of doctoral education professionals. The proposed target audience are administrators in doctoral education, HR managers and academic leaders in higher education institutions. Modern doctoral education needs professional staff and this handbook aims at helping to reach this goal.

„In my view this book ties up loose ends in the discussion about the importance of professionals in doctoral education. Thank you very much for this support!"

Christiane Wüllner, Managing Director, RUB Research School

„An outcome of the PRIDE project constitutes a welcome practical guide to the specific reality and role of the new professionals of doctoral education. Its wide range of reflection, information and CPD material promises to be of much use to the new professional community."

Prof. Dorothy Kelly, Chair of the Executive Board, Coimbra Group

"The PRIDE project gave an important contribution by providing very useful tools and guidelines and designing a training programme for the professionalization of the supporting administrating staff in doctoral education."

Luciano Saso, President of the UNICA Network of the Universities from the Capitals of Europe

"For all university staff seeking to foster the best education for the doctoral candidates, and support the best research-trained professionals for tomorrow's society at large, this book might be seen as a new « Guide for the Perplexed » (Maimonides). A must-read for every professional in doctoral education."

Denis Billotte, Secrétaire général, Conférence Universitaire de Suisse Occidentale