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DocEnhance

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“Enhancing skills intelligence and integration into existing PhD programmes by providing transferable skills training through an open online platform”

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1st Policy Brief

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Policy Brief

TRANSFERABLE SKILLS TRAINING IN DOCTORAL EDUCATION

Training PhD candidates in transferable skills is crucial to improve their career prospects outside academia. Adaptability, teamwork, communication, presentation, and language skills are particularly sought after by non-academic employers. Though these competences may be acquired through 'learning-by-doing' activities, good practice recommendations on transferable skills training include formal and non-formal training through graduate and doctoral schools.

ENHANCING SUCCESSFUL AND DIVERSE CAREER PATHS FOR DOCTORAL GRADUATES

Over the last two decades, transferable skills training has become one of the most significant aspects of the doctoral education reform in Europe. Transferable skills - that apply in a broad variety of work situations - enable researchers to be more effective in their research and more adaptable to an increasingly mobile and global research environment. This acquisition of skills also indirectly contributes to improve and maximise research outputs (OECD 2012, KIRD 2010).

The European Commission has identified skills such as creativity, entrepreneurship, teamwork, risk-taking and project management as essential to increase individuals' innovation performance, to improve the competence of private and public organisations, to facilitate knowledge and technology transfer and thus to improve the overall competitiveness and attractiveness of Europe as a region (EC, 2010, p. 34). Similarly, OECD (2011, 2012) considers transferable skills important for innovation.

These skills are currently receiving more attention, and training opportunities are expanding as research careers diversify. Several reports and policy papers stress the need



to rethink the curricula for doctoral studies and to put more emphasis on preparing the PhD candidates for their future careers, which most likely will be outside academia and require more diverse skillsets than those related solely to research (EUA 2010, EC 2011, LERU 2014, EUA 2014, Weber et al., 2018).

In recent years, the employment landscape for doctoral graduates has significantly changed. Whereas the number of research and professorship positions available within universities dropped, non-academic sectors and industries show growing interest in recruiting various doctoral graduate profiles. While several European studies suggest that the likelihood of obtaining full-time academic positions can greatly vary according to the field of research, improving the PhD candidates' transferable skills prove to be crucial to ensure that the knowledge workers of tomorrow can engage with research consumers and transfer their PhD results in academic and non-academic settings.

LESSONS LEARNED FROM DOCENHANCE

The DocEnhance project aims to enhance transferable skills intelligence and integration into existing PhD programmes by developing an employment and innovation-oriented curriculum for PhD programmes, facilitating business-education partnerships, and tracking PhD graduate career paths.

To understand the specific skill needs of the labour market, project partners organised regional workshops with non-academic stakeholders in four different European countries. Each workshop focused on a different sector - selected based on their relevance and importance in today's and tomorrow's society.

The most important transferable skills needed for "industry- and society- ready" PhD graduates that were identified during these workshops are listed in the table below.

Industrial sector Finland	Technology sector Spain	Non-profit sector Slovakia	Data-driven sector Norway
<ul style="list-style-type: none"> Digital skills Communication & presentation skills Identification of own skills & communication to different audiences Problem solving Management & leadership skills Contextual flexibility Creativity Adaptability, motivation & ethics Teamwork & networking Language skills 	<ul style="list-style-type: none"> Adaptability & flexibility Collaboration & teamwork Motivation Language skills Presentation skills Permanent self-learning Ability to address different audiences Understanding business culture/ organisational structures Participation in non-research activities Time management 	<ul style="list-style-type: none"> Personal skills & abilities: empathy, motivation, resilience, adaptability, flexibility, ethics, social responsibility Communication & presentation skills Organisational & execution skills: project & financial management, creativity Management & entrepreneurial skills Leadership, problem-solving, critical thinking Teamwork Language skills 	<ul style="list-style-type: none"> Understanding & analysing different types of data Running statistics Handling sensitive data Metadata management Text data mining Visualising & communicating data and statistics



RESULTS AND RECOMMENDATIONS

The most important transferable skills among the workshop participating organisations and represented sectors - industry, tech, non-profit and data-driven - are adaptability, flexibility, and motivation; communication and presentation skills; teamwork and cooperation, and language skills.

Problem solving, management, and leadership skills are also crucial skills identified by both the technology and non-profit sector.

Parallel to the active stakeholder engagement, the project is developing novel pilot courses for PhD candidates based on the DocEnhance course concept. The three pilot courses will cover topics on career management and entrepreneurship, data stewardship, and supervision. In relation to those, in-depth analysis on the current skill gaps will be provided in the next policy brief.

Transferable skills and competences can be acquired through:

- ✓ **Learning-by-doing** activities and training

Doctoral candidates can take the opportunity to apply for different types of internships or to apply for a research stay or mobility abroad. These experiences are heavily based on learning-by doing activities and provide an excellent environment for the acquisition of transferable skills.

The following transferable skills, based on learning-by-doing activities of doctoral candidates, are highly appreciated by employers outside academia:

- Communication and interpersonal skills including teamwork, networking, and collaboration.
- Critical and creative thinking, analytical skills.
- Organization, project and management skills, and personal resilience.
- Leadership and engagement.

- ✓ **Formal training** courses provided by higher education institutions

A good practice recommendation on formal training of transferable skills is its organisation through graduate and doctoral schools. These schools typically provide a range of support for doctoral candidates, including training of transferable skills oriented particularly towards professional development and employability. Project management, networking practice and communication skills are fundamental components of formal training of transferable skills.

Formal training often includes reflections on existing career options and sessions where academic and non-academic careers paths and entrepreneurial options are presented and discussed. Other courses related to formal training are oriented towards personal skills and self-management, collaboration techniques, teaching, supervising & coaching, and effective communication (for more information see DocEnhance' s Deliverable No.1.1).



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