DocEnhance

PhD employability beyond academia and transferable skills courses

EUTOPIA doctoral training seminar on science outreach

Eva Hnatkova

CC BY

Vrije Universiteit Brussel, 29 June 2022

DocEnhance

This talk

- PhD career-tracking survey
- Transferable skills courses

} will be **freely available** at the DocEnhance platform

DocEnhance resources are designed to be easily adapted & integrated at your institution

- Data Stewardship

- Career management & entrepreneurship

- Supervision

This project has received funding from the European Union`s Horizon 2020 Science with and for Society programme under grant agreement no. 872483

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Why DocEnhance?

- PhD holders more likely to follow a **career outside the university** as numbers of PhDs on the rise (OECD, Education at a Glance, 2019; Kehm, 2007)
- Reported mismatches between employers' needs and skills developed in doctoral programmes (DeGrande et al, 2014; Bebiroglu et al, 2022)
- ***"Offering training in transferable skills … is central, and should be a priority for doctoral schools and programmes"*** (Salzbourg II recommendations, EUA, 2010)
- ***"Identifying missing elements of skills training remains an important task…"*** (Survey "Doctoral Education in Europe today", EUA-CDE, 2022)

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DocEnhance aims

- Collect **evidence on PhDs' employment** and **skills** usage
- Develop and integrate **transferable skills training** into **existing PhD programmes**
- Increase **interaction with non-academic sector**

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PhD Career-Tracking Survey

+ good practice guide for implementation

[Report on career-tracking of PhD graduates]

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PhD Career-tracking survey

Questionnaire

- based on ESF career-tracking surveys + developed with DocEnhance partners

Target population

- PhD graduates between 2016 and 2020 from **9 universities** (NL, DE, NO, GR, ES, PT, SK, IT, CZ)

Survey

- **2,217** responses collected (response rate: **23%**)

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PhD Career-tracking survey

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PhD employment by sector

All findings from DocEnhance Career-tracking survey at www.docenhance.eu

37% in universities	**22%** in private sector
12% in research organisations	**10%** in health care
8% in the government	**11%** in other sectors

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PhD Career-tracking survey

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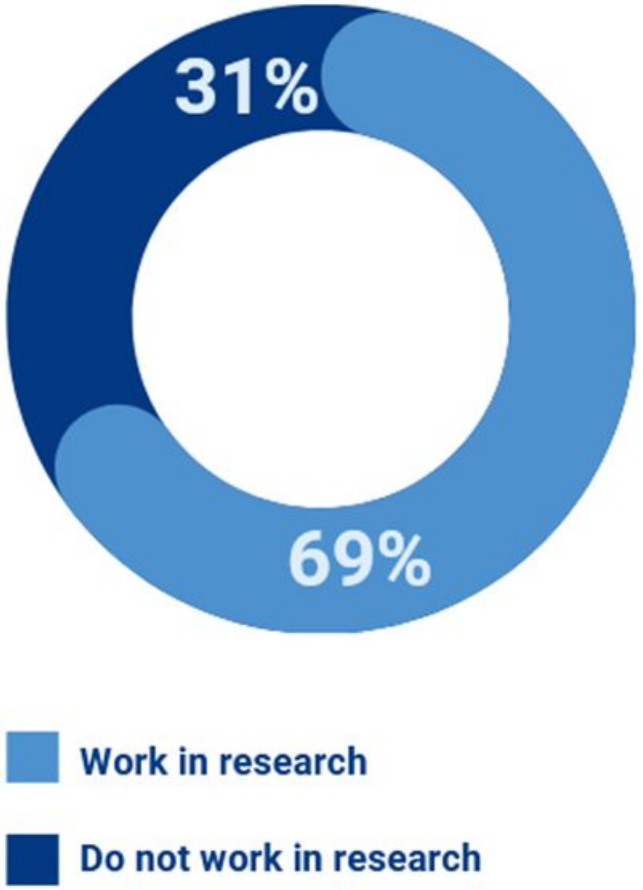
How many PhD holders are engaged in research in their current job?

All findings from DocEnhance Career-tracking survey at www.docenhance.eu



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Satisfaction with doctoral training

(1 = very dissatisfied, 5 = very satisfied)

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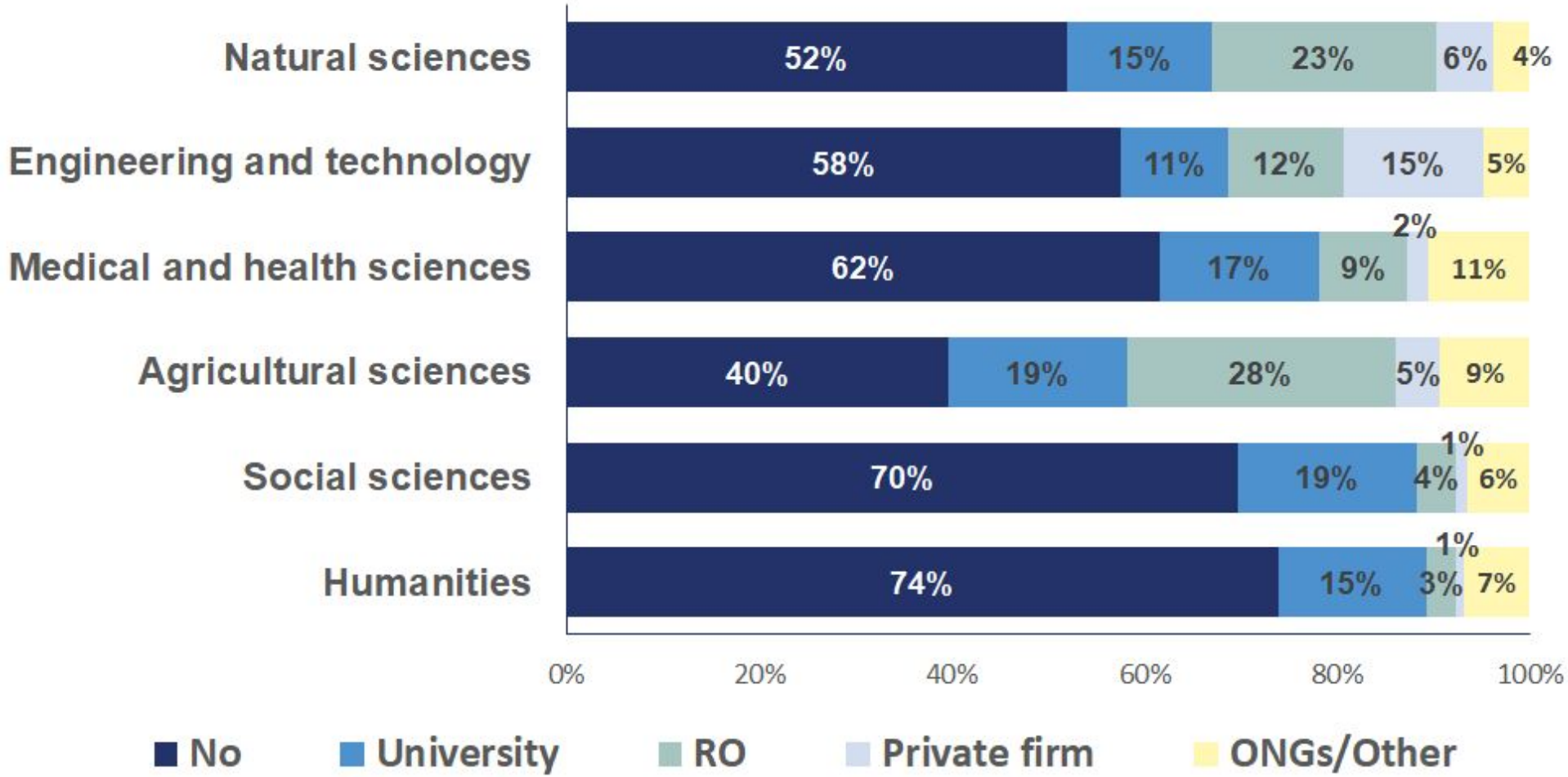
Collaboration with another organisation during PhD?



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Transferable skills

In the survey 24 skills were clustered in 5 groups

- **Research skills and other academic/technical competences** (Subject knowledge, Methodology, Research valorisation, Teaching…)
- **Personal skills** (Critical-analytical thinking, Problem-solving, Creativity, Flexibility, Personal effectiveness…)
- **Professional skills** (Team working, Entrepreneurship, Networking, Negotiation…)
- **Communication skills** (Effective communication, Languages, Intercultural skills, Digital communication)
- **Management skills** (Project management, Career management, Data stewardship)

Asked PhDs about their skills at PhD completion and skills needed in their jobs

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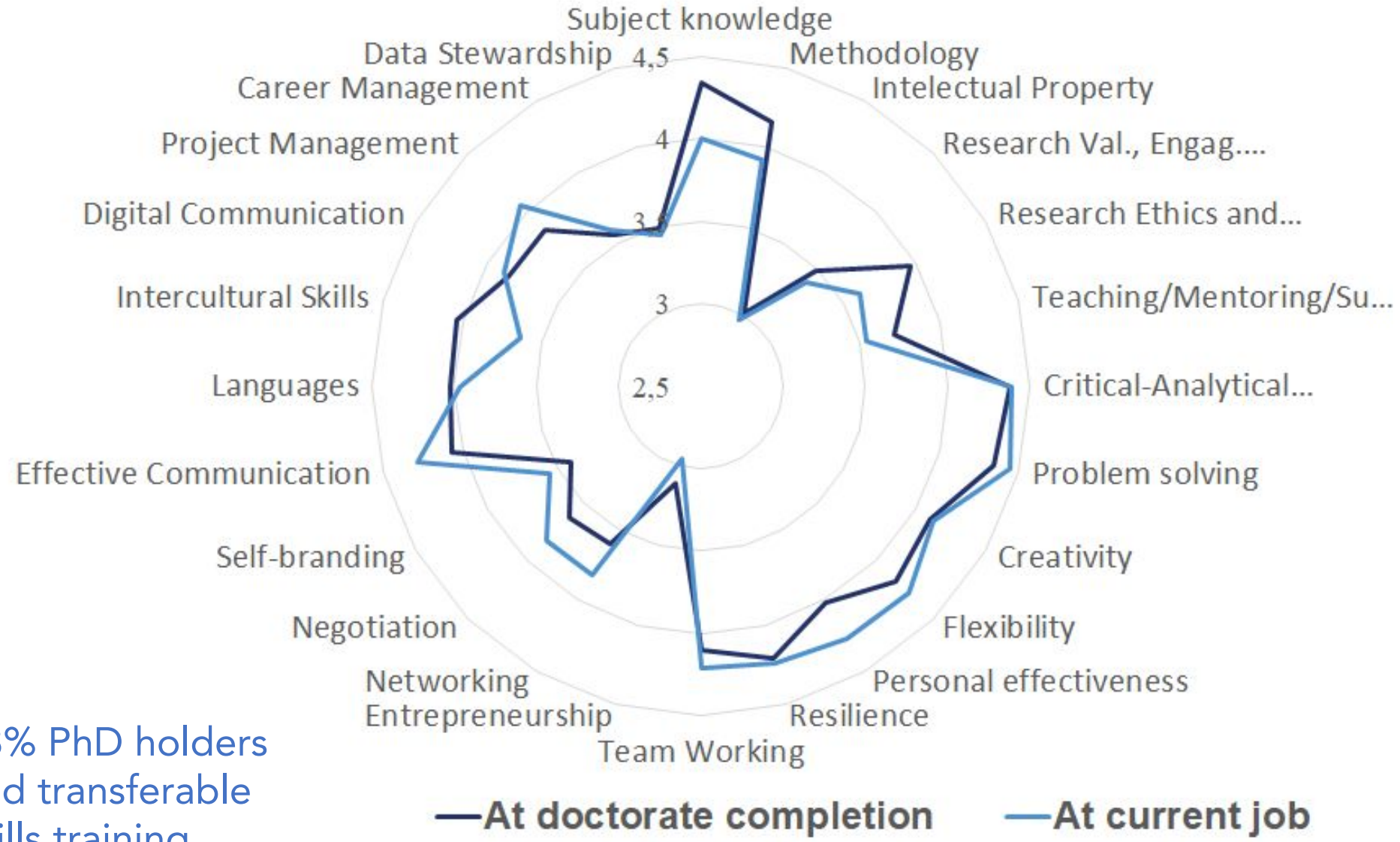
Skills at PhD completion and in current job



68% PhD holders had transferable skills training

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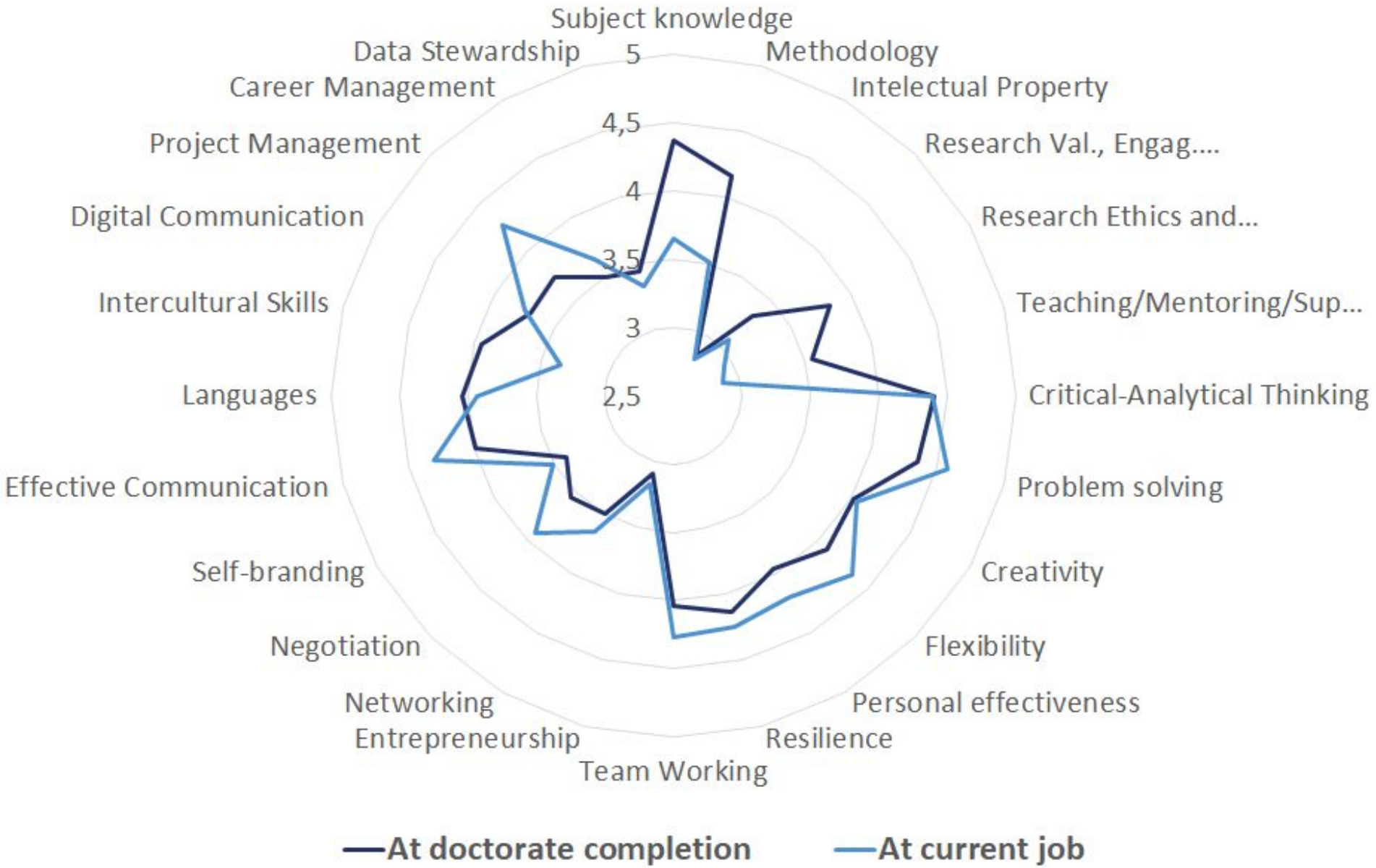
Private sector



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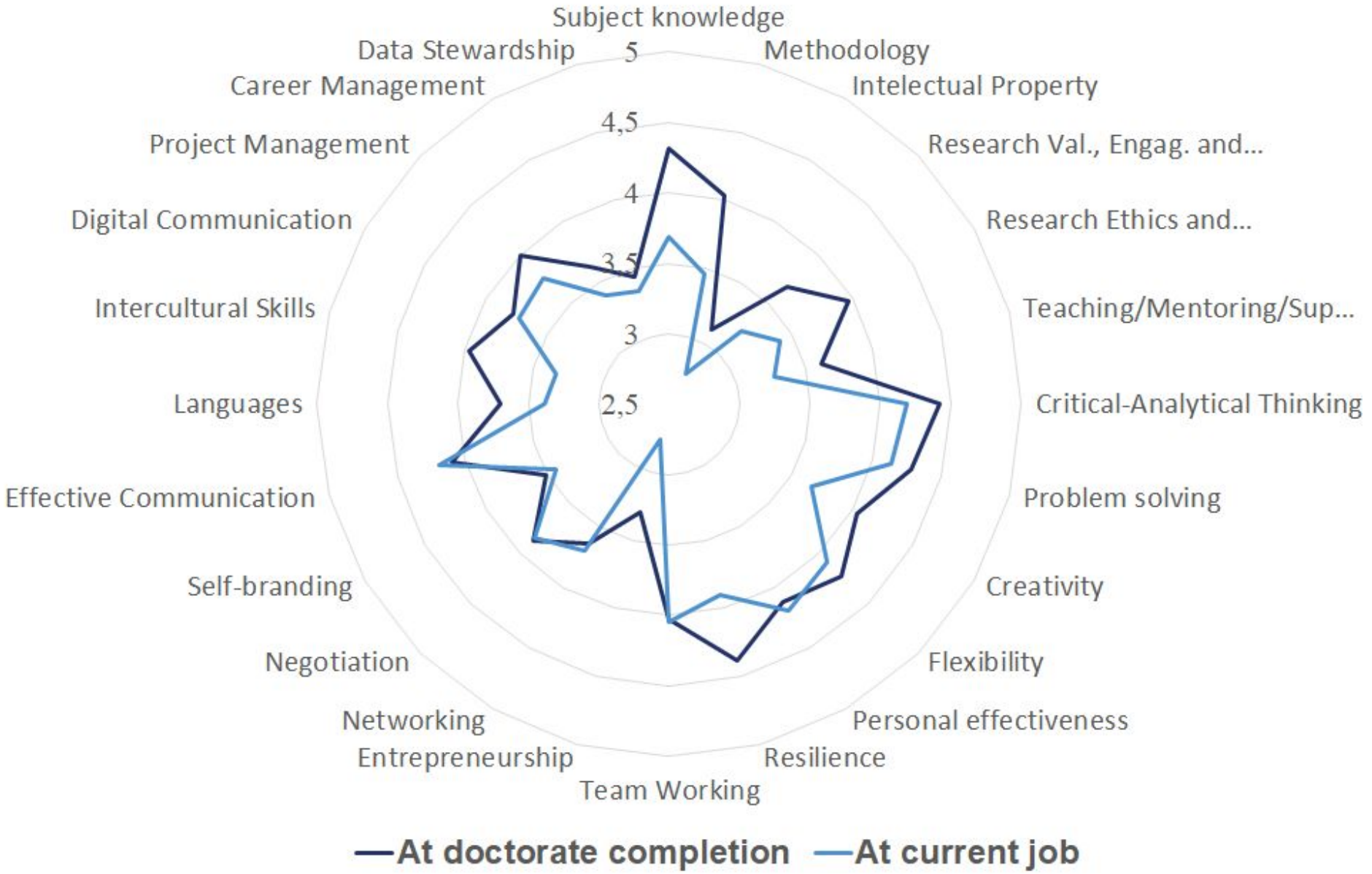
Government



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Design of 3 pilot courses

on transferable skills for doctoral candidates/supervisors

- Data Stewardship

- Career management & entrepreneurship

- Supervision

All modules include exam tests and certification

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Data stewardship

Aims of this course: to introduce PhD candidates the complexity of research data management from finding relevant data to publishing an own dataset

PhD candidates, learn:

- How to develop and use a Data Management Plan
- How to store and archive data
- How to use licenses, repositories, database platforms, data search engines, apps...

...and much more!

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Career management & entrepreneurship

Aims of this course: to acquire PhD candidates the competencies needed to advance their career and to become more entrepreneurial.

PhD candidates, learn:

- How to build a personal branding
- How to build a career plan and define personal development goals
- How to communicate and coach others effectively...

...and much more!

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PhD Supervision

Aims of this course: high-quality PhD supervision is the crucial tool that supports impactful doctoral education and prepares PhD candidates to contribute to research and society.

PhD Supervisors, learn:

- How to build a professional relationship with doctoral candidates
- How to define roles, functions and expectations through the Supervision process
- How to use Supervision models, tools, resources...

...and much more!

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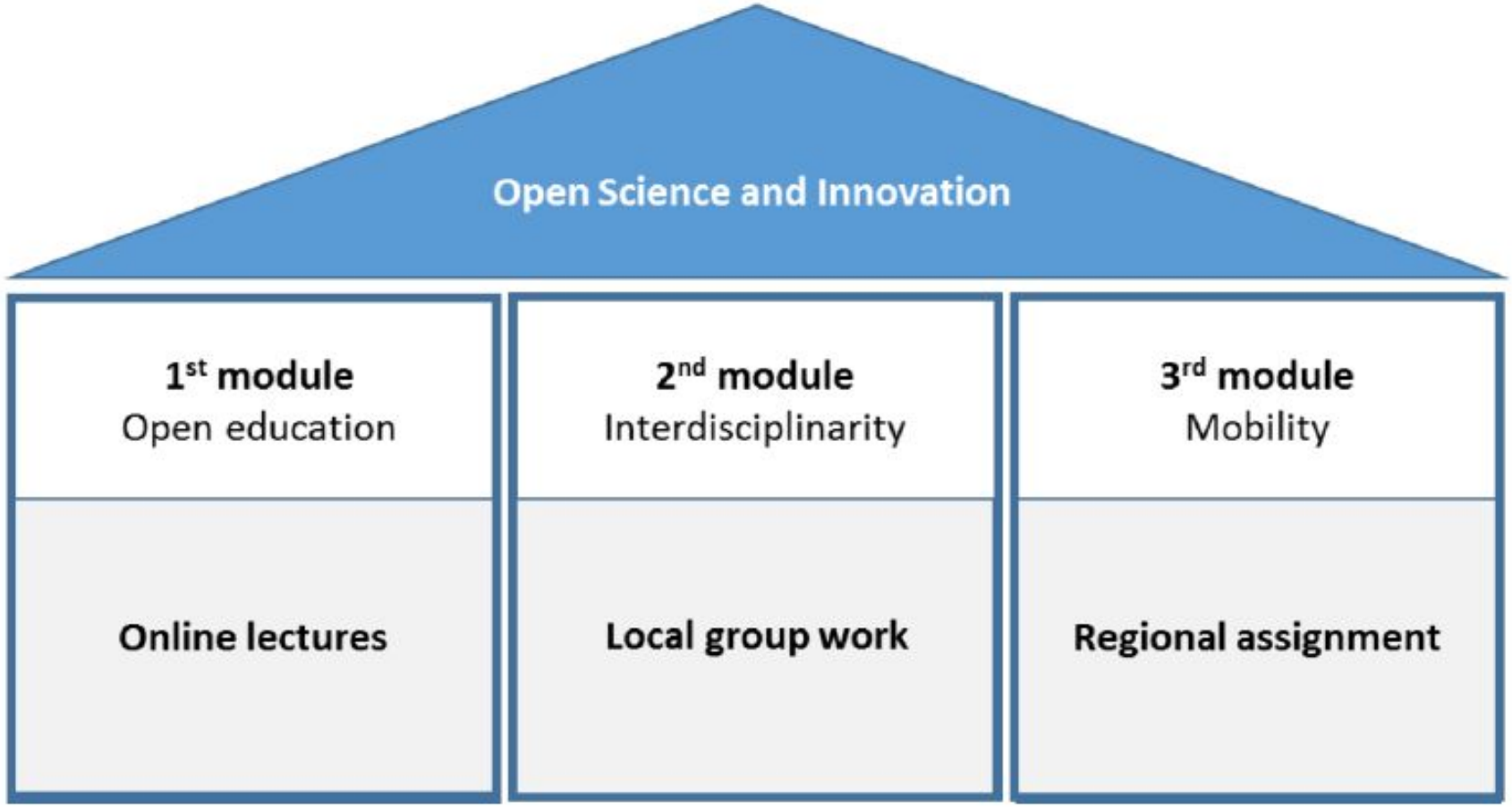
A Novel Course Concept



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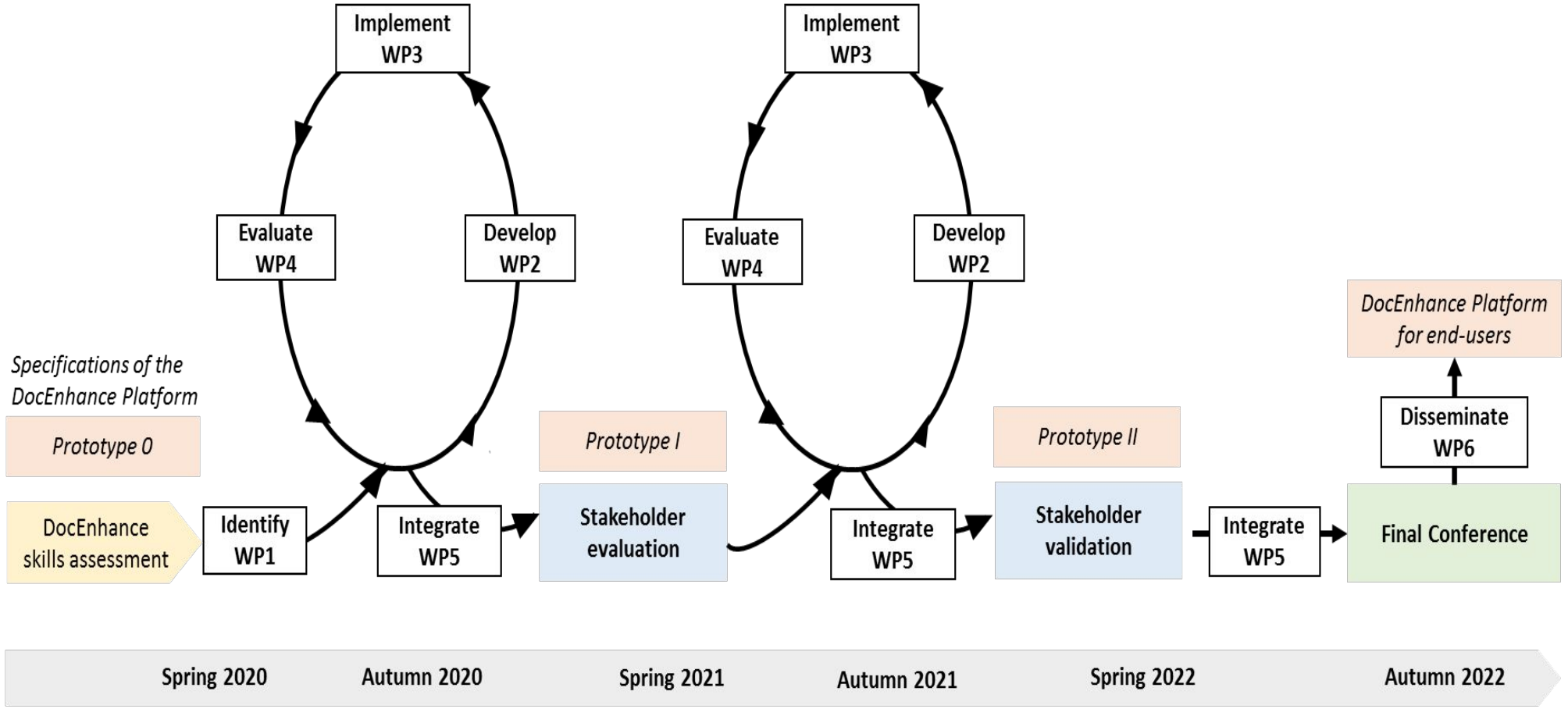
Concept and methodology

Co-creation approach ➡ Skills intelligence ➡ Skills integration



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Case study: Data stewardship

This course was developed in 2020/2021 by a group of RDM specialists at UiT, involved in RDM teaching at the institution

UiT The Arctic University of Norway

Three-person working group in charge of it all

- Helene N. Andreassen
- Henning Hansen
- Leif Longva

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Data stewardship course

Piloted at 2 rounds in 2021 & 2022

- **University of Chemistry and Technology in Prague, Czechia**

~ 25 PhD candidates

~ 8 trainers

Pilot - financial remuneration for active participation and subsequent feedback

- **Karlstad University, Sweden**

~ 14 PhD candidates

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Data stewardship course

MODULE 1	MODULE 2	MODULE 3
online lectures	**workshops** & **tasks** in local working teams	**workshops** & regional **assignments** with employers
• general introduction • basics of how to handle research data in a PhD thesis	• learning by doing • practical assignments • working in small groups • discussions • local resources • meet local demands **#Interdisciplinarity** **#Teamworking**	• practical tasks in cooperation with business / public service entity • help to prepare PhD candidates for a career outside academia • putting into practice the theory & practical skills **#Inter-sectoral mobility**

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Data stewardship - Module 1

10 thematic issues

Focus on motivation, theory and concepts (~ 16 hours)

1. Introduction
2. About research data
3. How to search & cite research data
4. Research contracts
5. How to structure & document research data
6. How to store research data
7. How to visualise research data
8. How to archive research data
9. Rights and licenses for research data
10. How to write a research DMP

Video, suggested **readings**

Interaction via **quizzes** and open « **food for thought** »

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Data stewardship - Module 1

Moodle

DocEnhance Data Stewardship course: Module 1

Home / My courses / DocEnhance Data Stewardship course: Module 1 / 5. How to structure and document research data / 5.3 The Readme-file

E-learning VŠCHT

- DocEnhance Data Stewardship course: Module 1
- Participants
- Badges
- Competencies
- Grades
- Home
- Dashboard

5.3 The Readme-file

What is meant by documenting a dataset? And why is documenting a dataset important? In this video you will learn why good documentation of a dataset is crucial in order to avoid misinterpretation of the dataset.

Transcript of video "How to structure ...: Documenting your data - The Readme-file"

Lessons learned:

- To document a dataset is to give a human readable introduction and explanation of what information the dataset holds.
- You document your dataset by creating a separate file usually called a Readme file.
- The information in the Readme file should make sure anyone are able to understand and interpret your dataset correctly, both now and also many years from now.
- You should start entering information into your Readme file early, and update the file as new information is obtained.
- The Readme file should supplement the information found in the dataset's metadata.
- The Readme file should be in plain a preferred format, either plain text with UTF8, or PDF/A.

Food for thought

Think through your own PhD project and the data you have collected, or plan to collect. What do you see as essential to include and explain in a Readme file, to make sure your dataset is understood correctly by outsiders?

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Data stewardship - Module 1

Exam quiz & certification

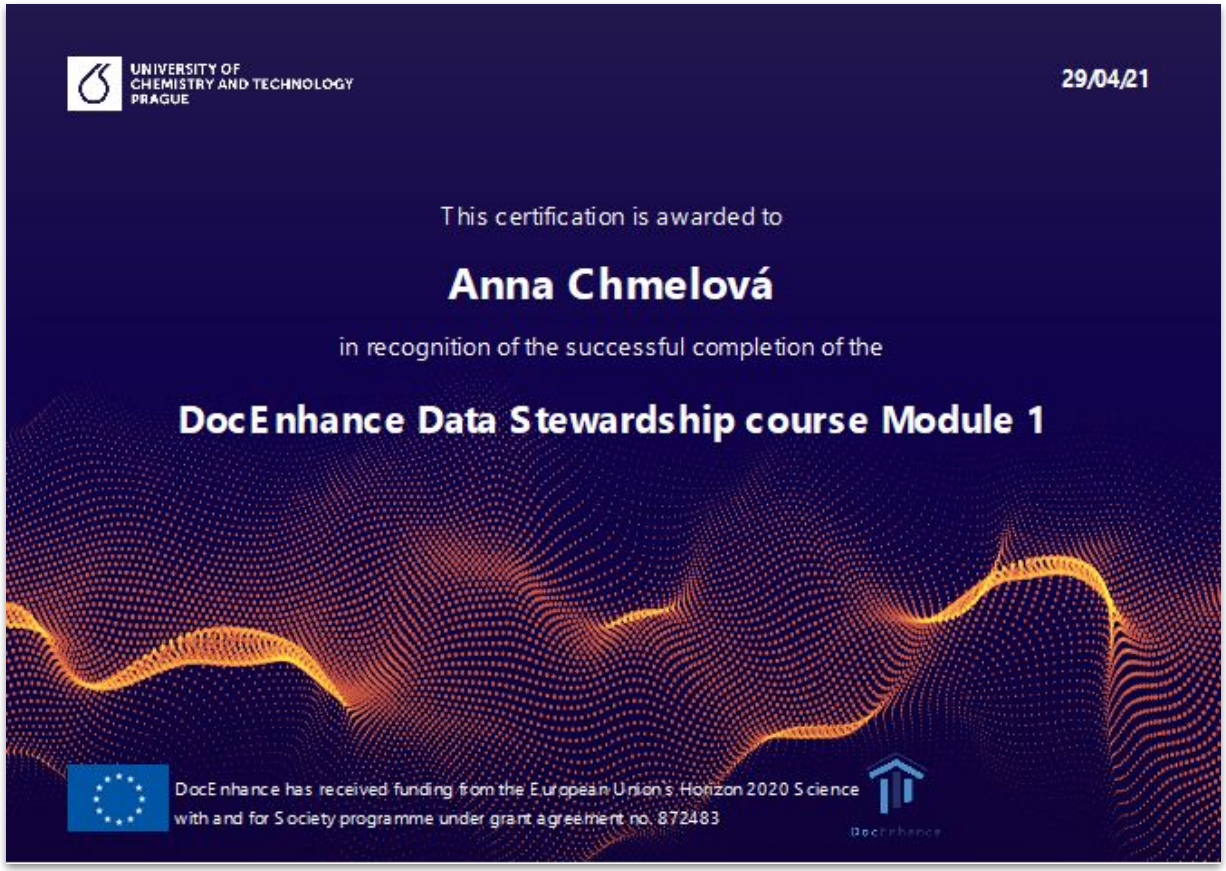
Final exam quiz

If you get 80% or 24 correct answers

⇩

Certification M1

generated by the Moodle



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Data stewardship - Module 2

Workshops & assignments

- Materials for trainers on the Moodle platform
- The local trainers decide which content and activities to use
- 6 workshops (2 hours)
- Participants worked in small groups

Description	5 April Tuesday	6 April Wednesday	7 April Thursday
	10:00-12:00	10:00-12:00	10:00-12:00
Session	**#1: The importance of RDM and open archiving**	**#3: Structuring, documenting, and metadata**	**#5: Sharing and licensing research data**
Main lecturer	*Eva Hnatkova*	*Ivan Čmelo*	*Jiří Jirát*
Lecturer 2	*Martin Schätz*	*Jan Vrba*	
	14:00-16:00	14:00-16:00	10:00-12:00
Session	**#2: The data management plan**	**#4: Data storage, file formats, and the FAIR principles**	**#6: Visualising, reusing/searching, and citing research data**
Main lecturer	*Eva Hnatkova*	*Marcela Dendisová*	*Radek Cibulka*
Lecturer 2	*Martin Schätz*	*Eva Hnatkova*	*Eva Svobodová*
Lecturer 3	*Robert Pergl (jen pokud by pan Schätz nemohl)*		

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Data stewardship - Module 3

Purpose: Employ RDM knowledge in cooperation with non-academic sector

- Focus on application of knowledge from M1 &M2
- Trainer material on the Moodle platform
- Advice from the non-academic sector, assignment ideas, community-driven resource bank

Trip to Orlen Petrol, Czechia

The content of this module very much depends on the local stakeholders involved!!

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Why Data stewardship?

- Based on teamwork rather than indivudual study
- Opportunity for people to exchange experience
- Contact with private sector
- M3 can help with filling the gap between academia
- and private sector

Positive feedback from participants at UCT Prague

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The DocEnhance platform

By December 2022

- **Training resources** (courses, guidelines, reports, studies) developed by the project will be freely available
- Resources can be **easily adapted** to local needs and integrated into existing PhD programmes
- Based on existing platform: PhD Hub
- A dynamic network between academic and non-academic partners

phdhub
CONNECT · RESEARCH · INNOVATE

https://phdhub.eu/

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Next actions - Find out more!

1. Go the **DocEnhance website - https://docenhance.eu/**
2. Subscribe to the **Newsletter** (at the bottom of webpage)
3. Follow DocEnhance on **Twitter** and **LinkedIn**

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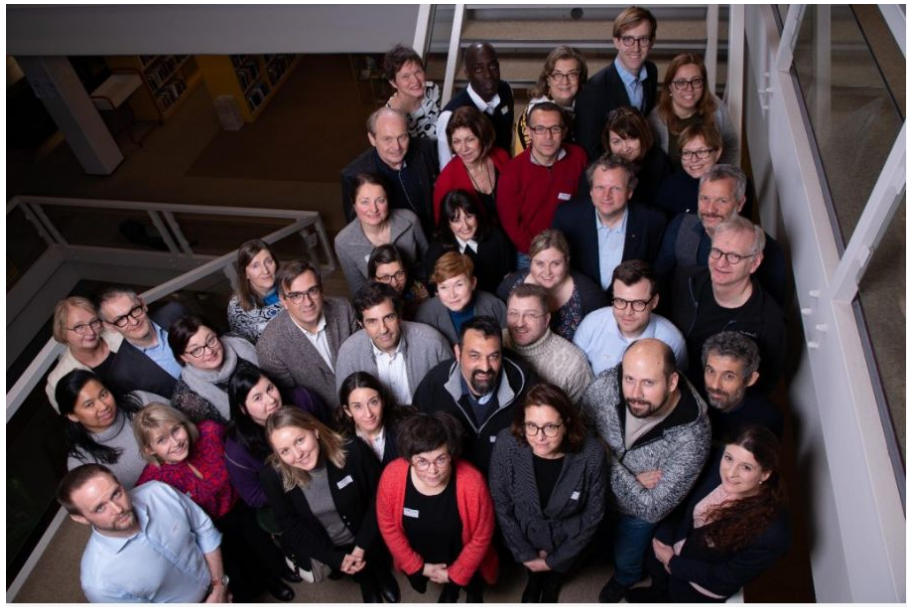

Partners of DocEnhance project during the kick-off meeting in Tromsø

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- EU project 2020 - 2022
- 19 partners

UiT The Arctic University of Norway

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ALL DIGITAL

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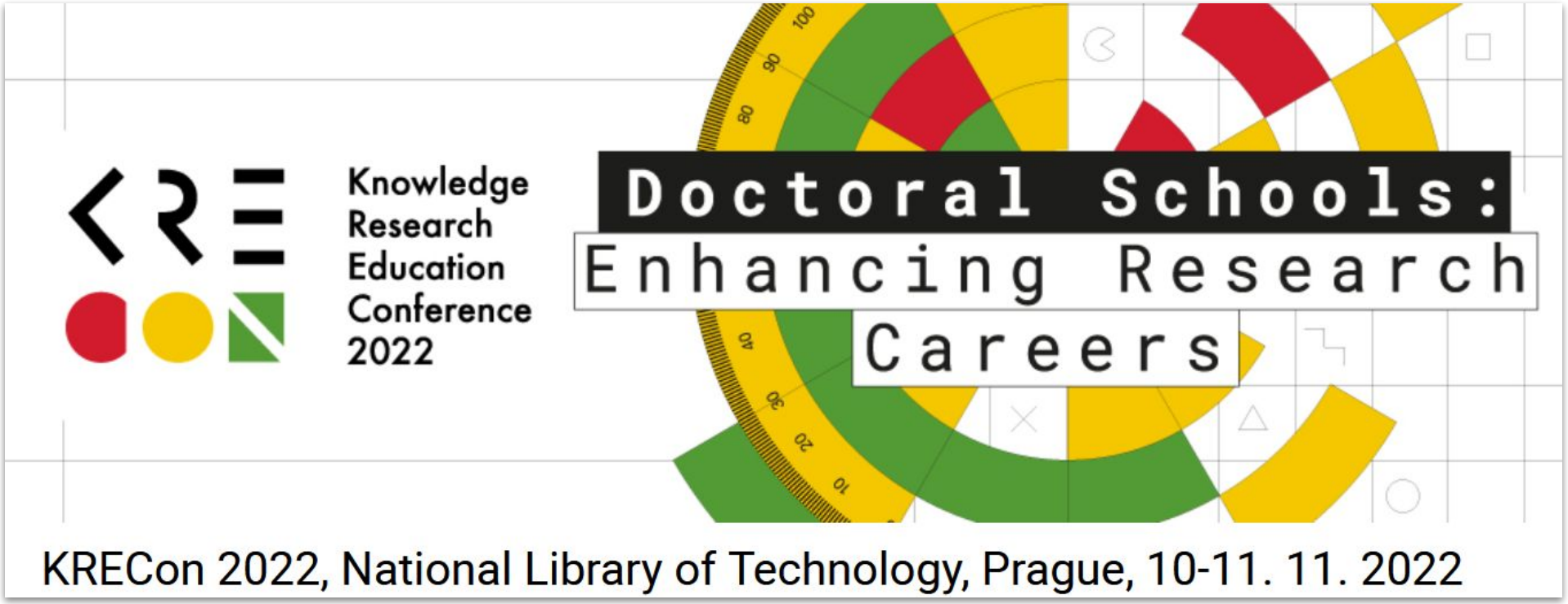
Czech Presidency of the Council of the EU



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