FAIR data, research data management and the role of doctoral education

EUA-CDE Thematic Workshop - Webinar II:
FAIR data management and research data in doctoral education

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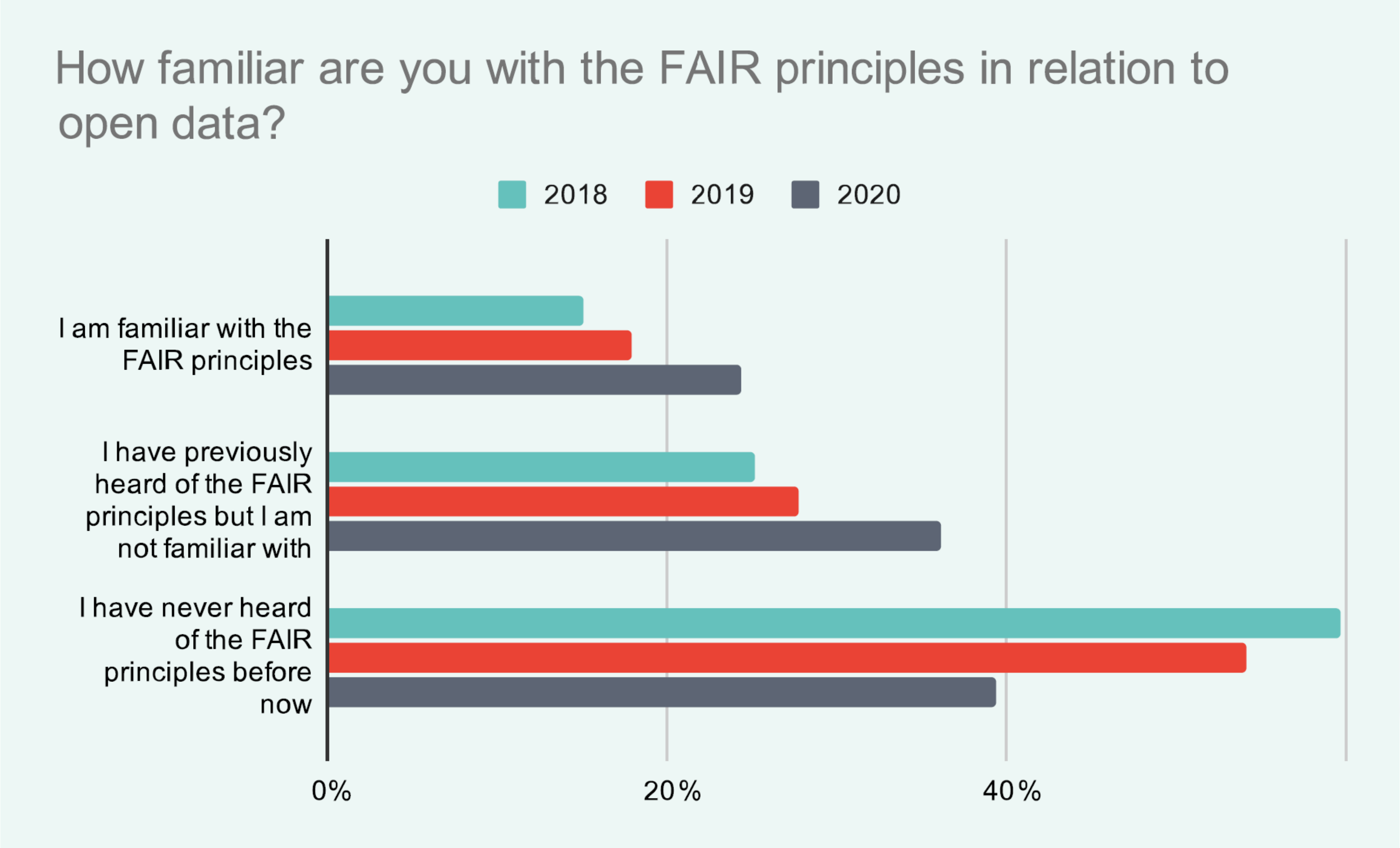
22 January 2021

FAIRsFAIR "Fostering FAIR Data Practices in Europe" has received funding from the European Union's Horizon 2020 project call H2020-INFRAEOSC-2018-2020 Grant agreement 831558



Digital Science; Hahnel, M.; McIntosh Borrelli, L.; et al. (2020): *The State of Open Data 2020*. Digital Science. Report. https://doi.org/10.6084/m9.figshare.13227875.v2

FAIRSFAIR
Fostering Fair Data Practices in Europe

Findable	F1. (meta)data are assigned a globally unique and persistent identifier
	F2. data are described with rich metadata (defined by R1 below)
	F3. metadata clearly and explicitly include the identifier of the data it describes
	F4. (meta)data are registered or indexed in a searchable resource
Accessible	A1. (meta)data are retrievable by their identifier using a standardized communications protocol
	A1.1 the protocol is open, free, and universally implementable
	A1.2 the protocol allows for an authentication and authorization procedure, where necessary
	A2. metadata are accessible, even when the data are no longer available
Interoperable	I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation
	I2. (meta)data use vocabularies that follow FAIR principles
	I3. (meta)data include qualified references to other (meta)data
Reusable	R1. meta(data) are richly described with a plurality of accurate and relevant attributes
	R1.1. (meta)data are released with a clear and accessible data usage license
	R1.2. (meta)data are associated with detailed provenance
	R1.3. (meta)data meet domain-relevant community standards

Wilkinson, M., Dumontier, M., Aalbersberg, I. *et al.* The FAIR Guiding Principles for scientific data management and stewardship. *Sci Data* **3,** 160018 (2016). https://doi.org/10.1038/sdata.2016.18


Policies & organisations
People
Technology & infrastructure

Quality assurance of research

Visibility and impact

Wider re-use and interdisciplinary research

Recognition and rewards

Accountability

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https://doi.org/10.1371/journal.pone.0230416

RESEARCH ARTICLE

The citation advantage of linking publications to research data

Giovanni Colavizza[1,2], Iain Hrynaszkiewicz[3,4], Isla Staden[1,5], Kirstie Whitaker[1,6], Barbara McGillivray[1,6]*

COMMENT | VOLUME 396, ISSUE 10257, P1056, OCTOBER 10, 2020

Learning from a retraction

The Editors of the Lancet Group

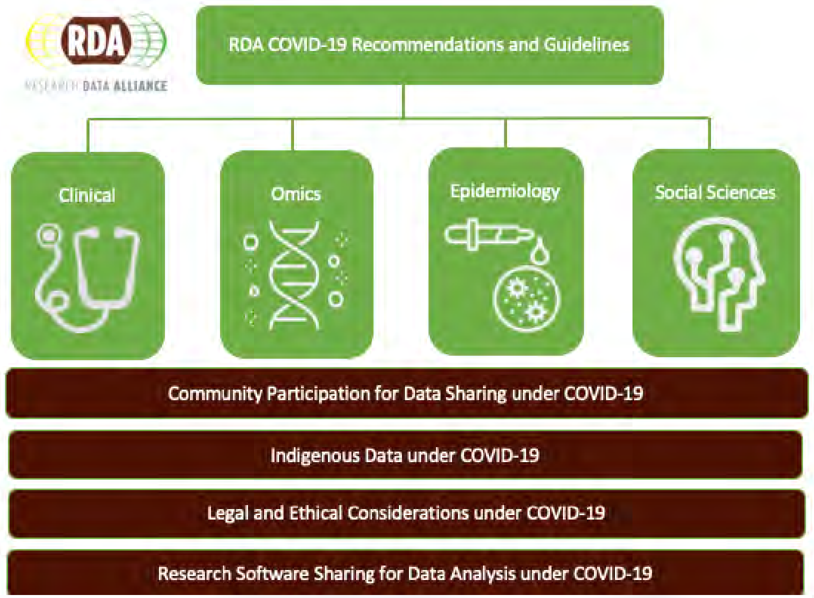
https://doi.org/10.1016/S0140-6736(20)31958-9

European Commission

Cost of not having FAIR research data

Cost-Benefit analysis for FAIR research data

https://op.europa.eu/s/oG8a



https://doi.org/10.15497/rda00052

COMMENT · 04 JUNE 2019 · CORRECTION 05 JUNE 2019

Credit data generators for data reuse

To promote effective sharing, we must create an enduring link between the people who generate data and its future uses, urge Heather H. Pierce and colleagues.

Heather H. Pierce, Anurupa Dev, Emily Statham & Barbara E. Bierer

https://doi.org/10.1038/d41586-019-01715-4

WORLD VIEW · 25 FEBRUARY 2020

Invest 5% of research funds in ensuring data are reusable

It is irresponsible to support research but not data stewardship, says Barend Mons.

Barend Mons

https://doi.org/10.1038/d41586-020-00505-7

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- Doctoral education is where researchers learn the tools of the trade, how research is carried out, which tools and methods are applied, and which outputs are important.
- ‘Mainstream’ RDM in disciplinary and interdisciplinary practices and as part of the usual research process.
- Link it with disciplinary practices and research ethics and integrity.
- This is of course not a short-term shift. Doctoral training is a key to make enable long-term change.
- Role of doctoral researchers for the research system in general (660k in EU27 in 2018*)

Doctoral training for a professional culture of RDM and FAIR data

https://eua-cde.org/the-doctoral-debate/192:enabling-fair-research-data-management-through-doctoral-education.html

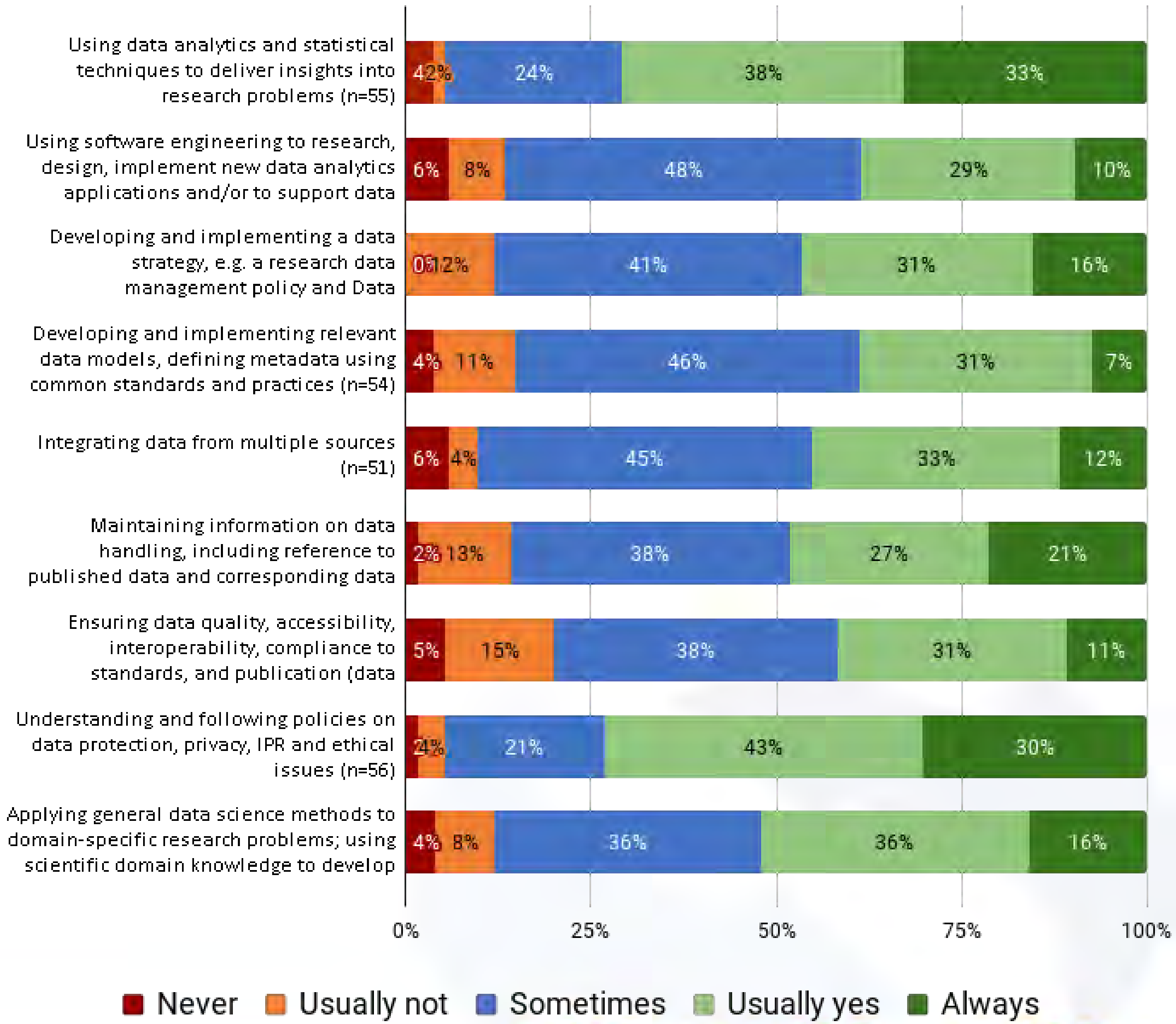
* https://ec.europa.eu/eurostat/statisticsexplained

What types of skills are taught?

Respondents were asked to indicate what extent specific skills were currently being delivered at their institution on a scale from “never” to “always”.

Definitions taken from EDISON project.

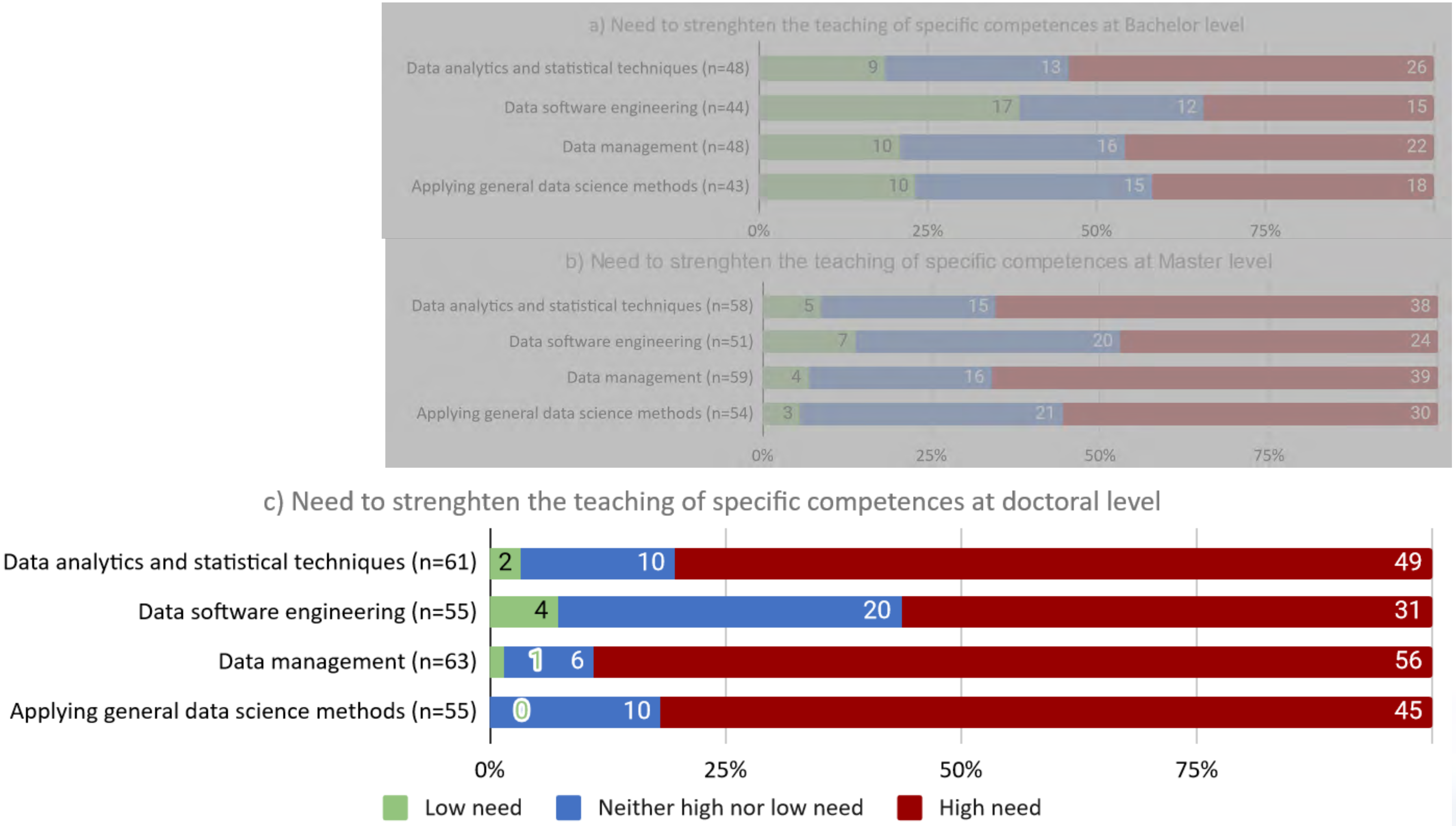
DOI 10.5281/zenodo.3629683



What types of skills should be taught more widely?

Respondents were asked to indicate if their institutions believe there is a need to strengthen the teaching of specific research data-related competences.

DOI 10.5281/zenodo.3629683



What is FAIRsFAIR doing?

Ongoing

- Definition of skills and competence levels
- Contributing to standard vocabulary for data stewardship
- Workshop with various training initiatives active in the field
- Hands-on training for data stewards and early career researchers

Upcoming

- FAIR training handbook
- Capacity building workshops – train the trainer events – one specifically targeted at doctoral training programmes
- Report highlighting good practices in RDM and FAIR education

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