Open Science training methods and practices across European Research Libraries

Cécile SWIATEK
(former) LIBER Working Group on Digital Skills
for library staff and researchers

2020 - Tuesday Nov. 26th

In a rapidly changing digital world, libraries are regularly re-assessing existing services and offering new ones to support research evolutions.

LIBER's Digital Skills for Library Staff and Researchers Working Group sketched the existing digital skilling and training practices available for library staff and researchers, with particular regard to those focused on Open Science.

Our aim was to share the many approaches being used across Europe — from mature programmes to emerging initiatives — through case studies.

By identifying and learning about the most relevant Open Science training programmes and initiatives in the current academic landscape, we can share best practices with our community.

Digital Skills WG

Which new skills are needed by library professionals? What training is required in order to better support research activities?

Skilling and training at LIBER

The WG participated to LIBER educational programme connected to digital skills of library staff members and researchers

We delivered

Webinars

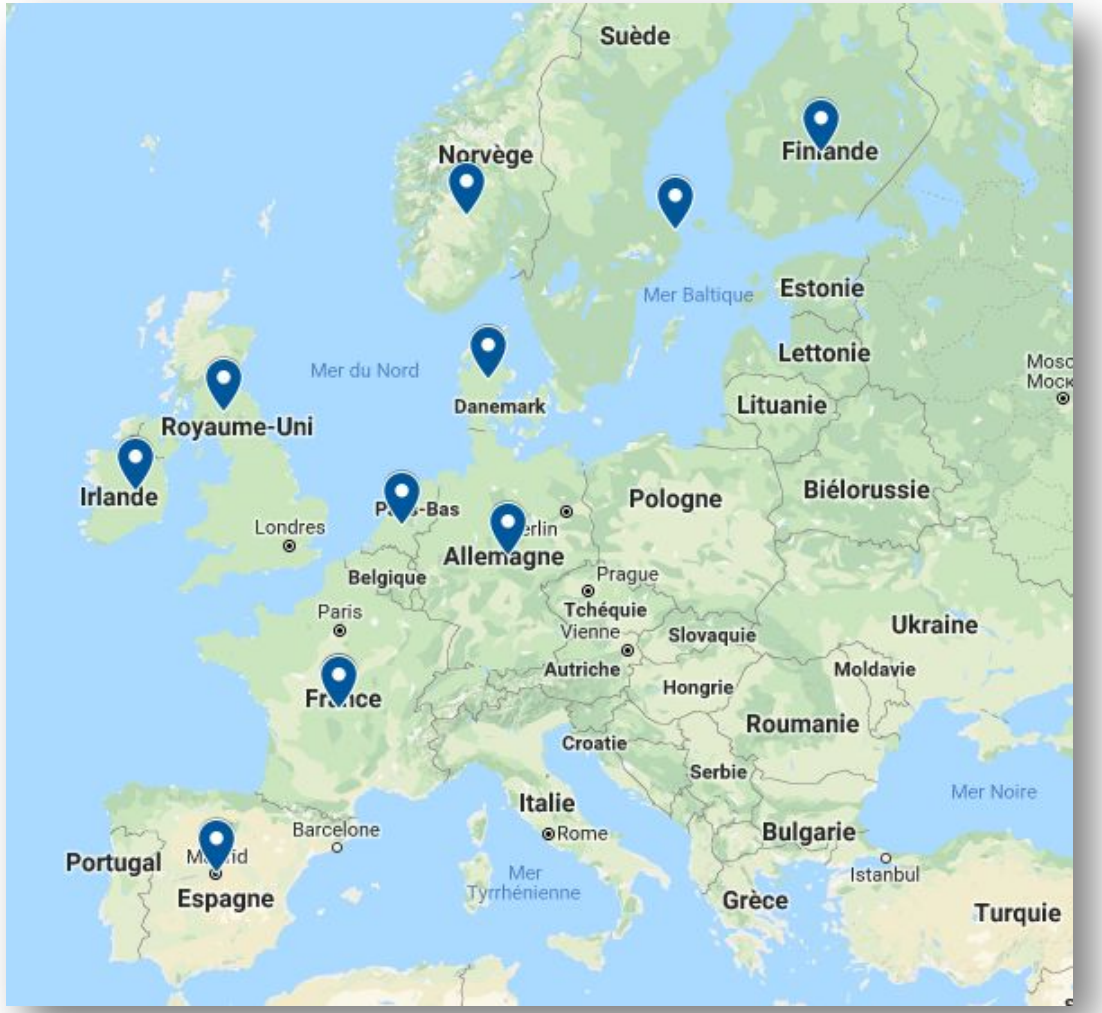
Workshops

OpenScience skilling and training selective landscape

Digital Skills List : an Entry Point to Digital skills frameworks

15 members

https://libereurope.eu/strategy/digital-skills-services/digitalskills/members/



https://libereurope.eu/strategy/digital-skills-services/digitalskills/

LIBER Open science skills

OPEN SCIENCE SKILL DEVELOPMENT INITIATIVES IN EUROPE

LIBER Survey Analysis

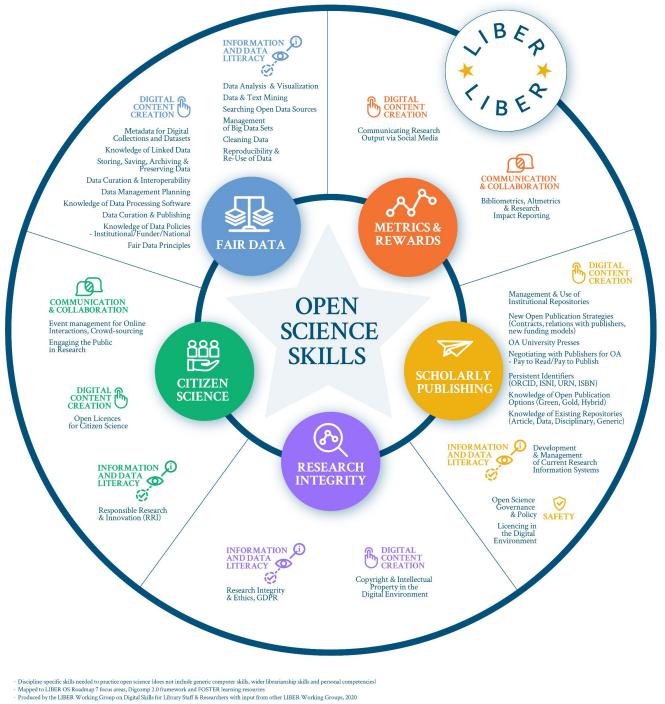
LIBER Open Science Training Methods and Practices Across European Research Libraries - Survey Analysis
10.5281/zenodo.3903141

Case reviews and questionnaire
https://doi.org/10.5281/zenodo.3251730

Open Science Training Case Studies

Austria	Hungary	Romania
Belgium	Ireland	Spain
Denmark	Italy	The Netherlands
Estonia	Latvia	Switzerland
Finland	Luxembourg	United Kingdom
France	Norway	
Germany	Poland	

Open science skills



LIBER visualisation diagram
https://doi.org/10.5281/zenodo.3702400

Digital skills useful references https://www.zotero.org/groups/2340674/liber_digital_skills_for_open_science/library

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Case Studies on European Open Science Skilling and Training Initiatives

The advance of Open Science has meant a reinvention of models, ways of working and techniques.

How do European libraries engage in skilling and training library staff and researchers in order to establish and share new skills, and to support research activities more efficiently?

- Sharing the many existing approaches for building Open Science skills sets with library staff and researchers across Europe through case studies
- Identifying and learning about the most relevant Open Science training programmes and initiatives in the current academic landscape, and share best practices with our community

Open Science training and skilling landscape

April 2019
Questionnaire and interviews

January 2020
RRI webinar

June 2019
LIBER conf. workshop

March 2020
Open Science conf. poster

May 2020
OS Skilling webinar

early 2019
Cases selection
Documentation
Questionnaire and analysis methodology

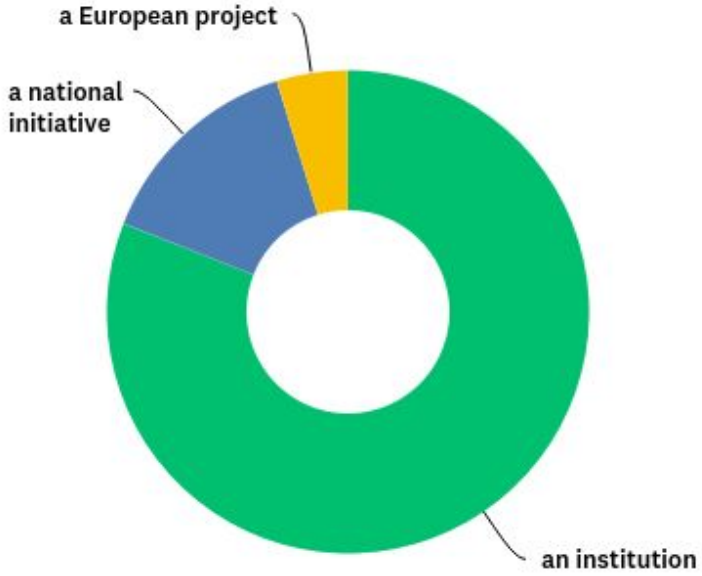
June 2020
LIBER online conference

Deliverable published CC-BY (WG ending)

LIBER Open Science Training Methods and Practices Across European Research Libraries - Survey Analysis
10.5281/zenodo.3903141

Case reviews & questionnaire
https://doi.org/10.5281/zenodo.3251730

Case Studies: from collection to analysis



https://doi.org/10.5281/zenodo.3251730
direct link to the collected cases

Open Science Training Case Studies

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Belgium	Ireland	Spain
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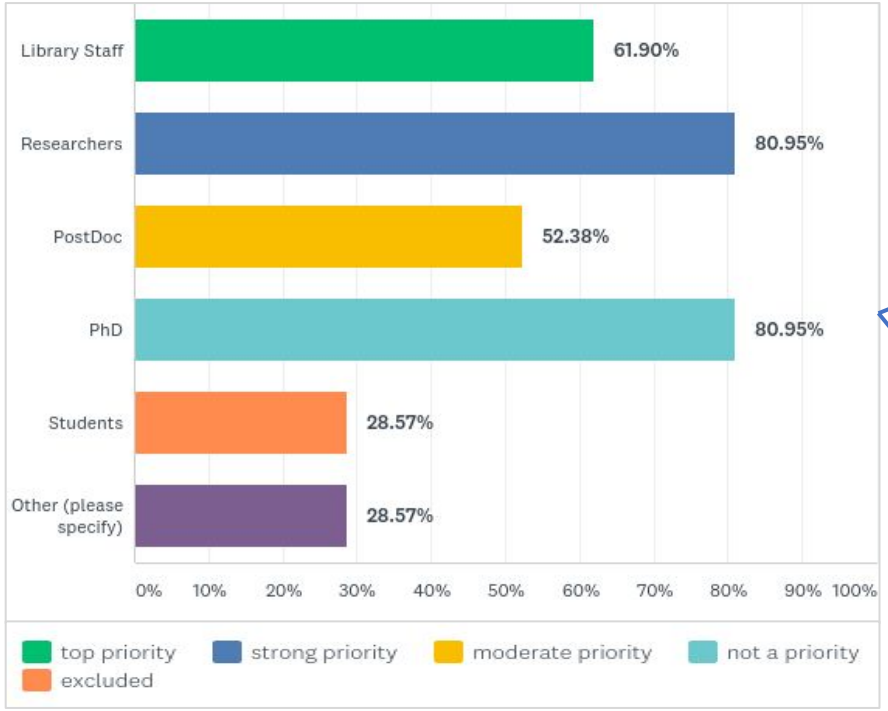
Germany	Poland	

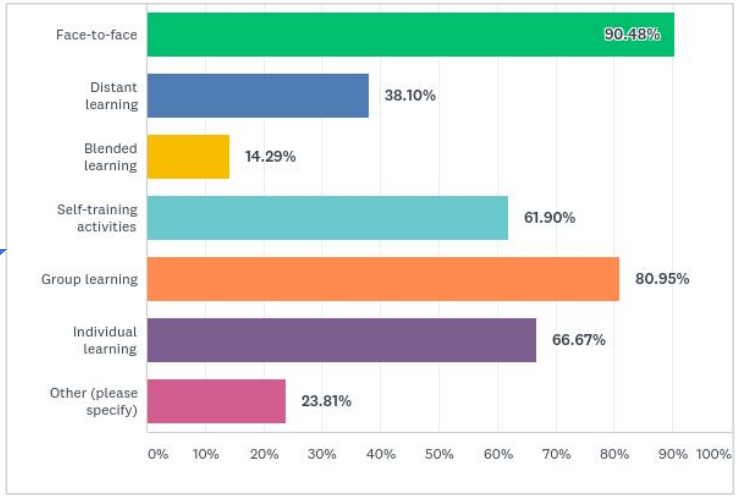
Swiatek, Cécile, McCaffrey, Ciara, Meyer, Thorsten, Svenbro, Anna, Brinken, Helene, Egerton, Frank, ... Clavel, Karin. (2020). LIBER Open Science Training Methods and Practices Across European Research Libraries - Survey Analysis. http://doi.org/10.5281/zenodo.3903142

Major ouputs 1/3: Reaching a targeted audience

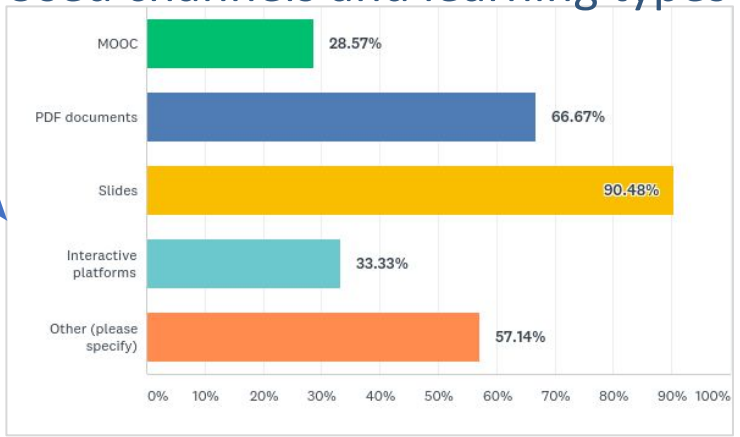
Target audience



Used formats



Used channels and learning types



https://doi.org/10.5281/zenodo.3251730
direct link to the collected cases

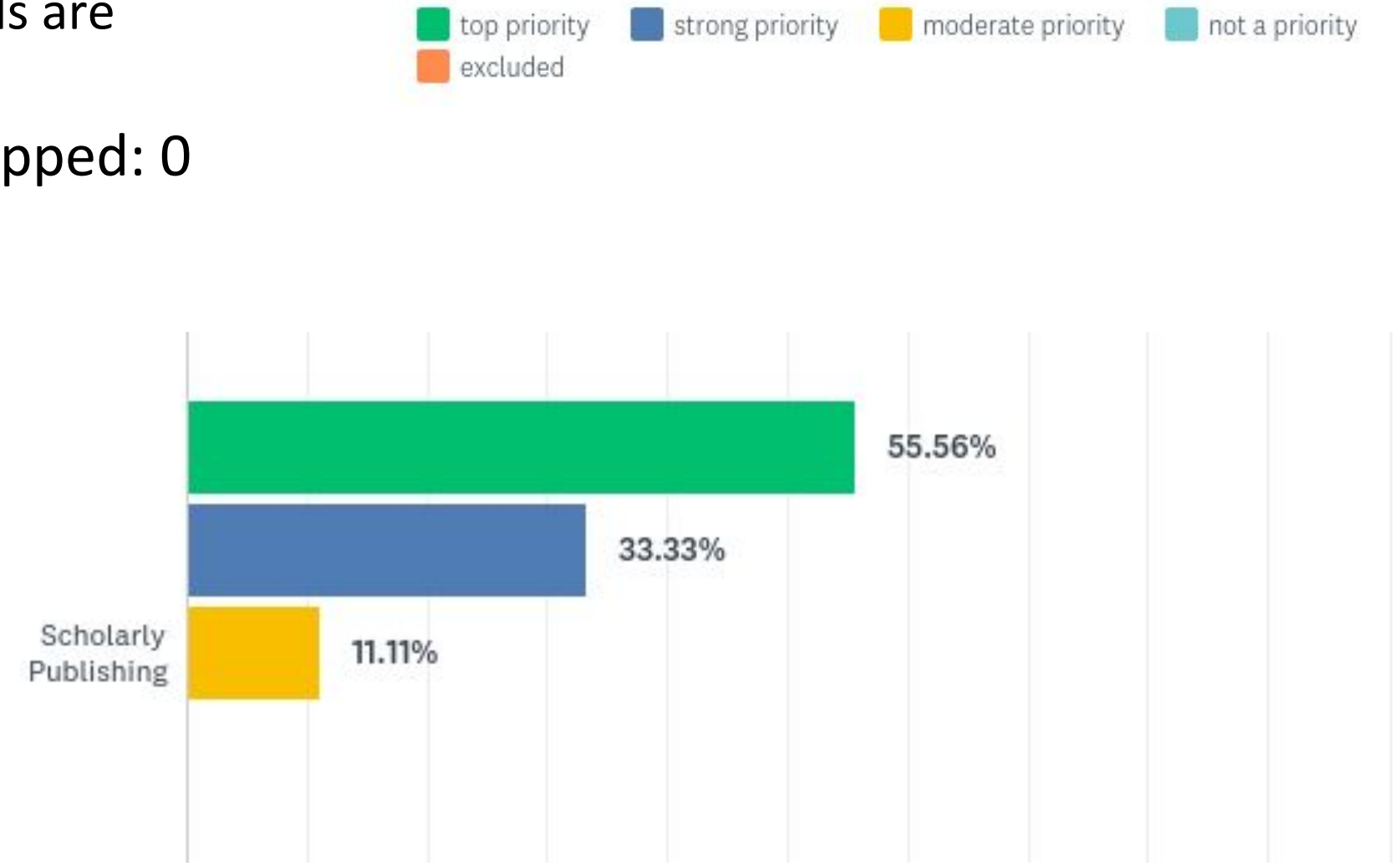
Major outputs 2/3: Setting clear priorities

	TOP PRIORITY	STRONG PRIORITY	MODERATE PRIORITY	NOT A PRIORITY	EXCLUDED	TOTAL RESPONDENTS
Scholarly Publishing	70.00% 14	25.00% 5	5.00% 1	0.00% 0	0.00% 0	20
FAIR Data	55.00% 11	40.00% 8	0.00% 0	5.00% 1	0.00% 0	20
Research Infrastuctures and the EOSC	10.53% 2	31.58% 6	47.37% 9	10.53% 2	5.26% 1	19
Metrics & Rewards	14.29% 3	23.81% 5	38.10% 8	23.81% 5	0.00% 0	21
Open Science Skills	80.00% 16	20.00% 4	0.00% 0	0.00% 0	0.00% 0	20
Research Integrity	21.05% 4	42.11% 8	26.32% 5	5.26% 1	5.26% 1	19
Citizen Science	5.26% 1	5.26% 1	31.58% 6	31.58% 6	26.32% 5	19

https://doi.org/10.5281/zenodo.3251730
direct link to the collected cases

Q9: What kind of skills are prioritised?

Answered: 10 Skipped: 0



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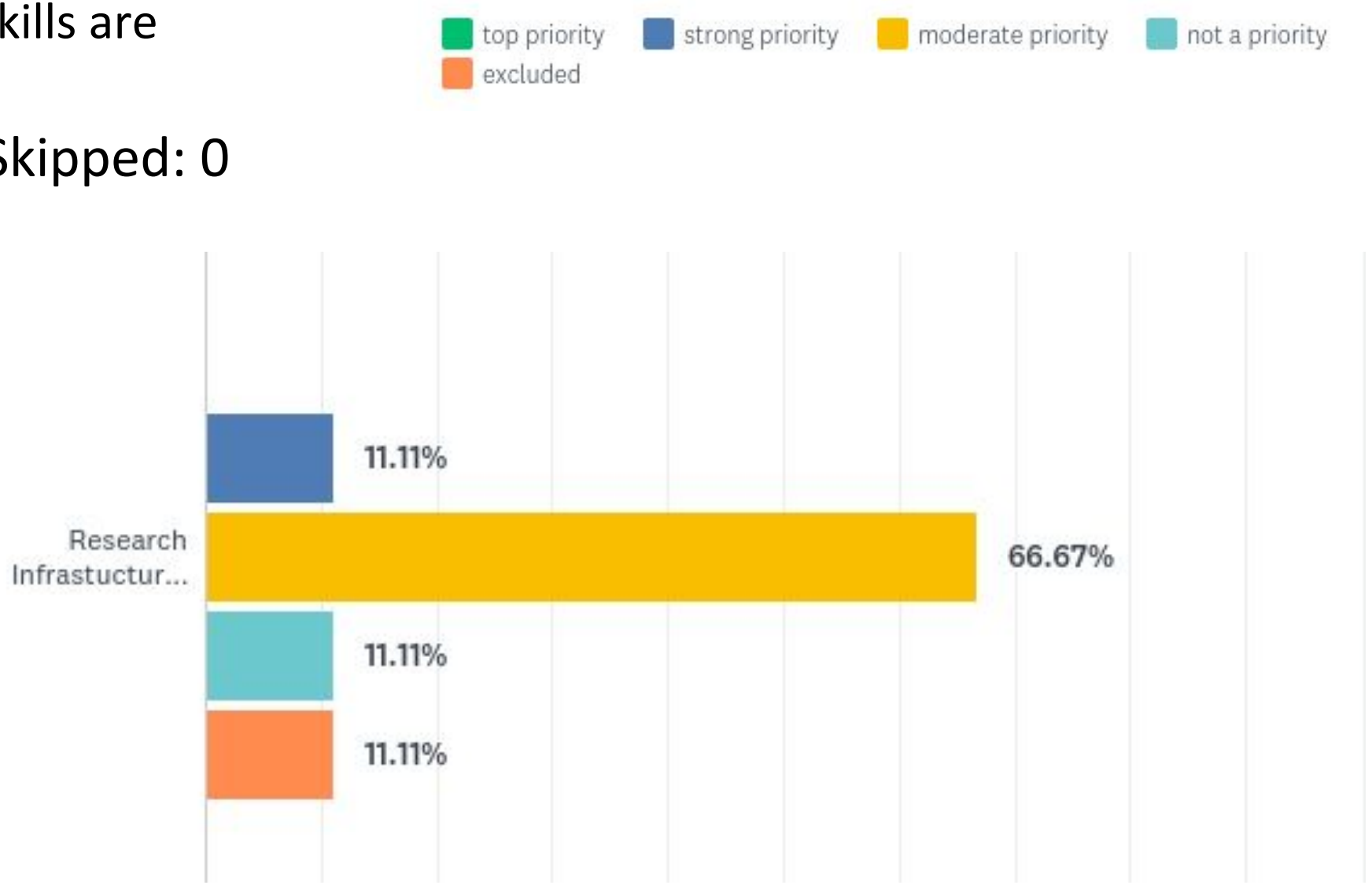

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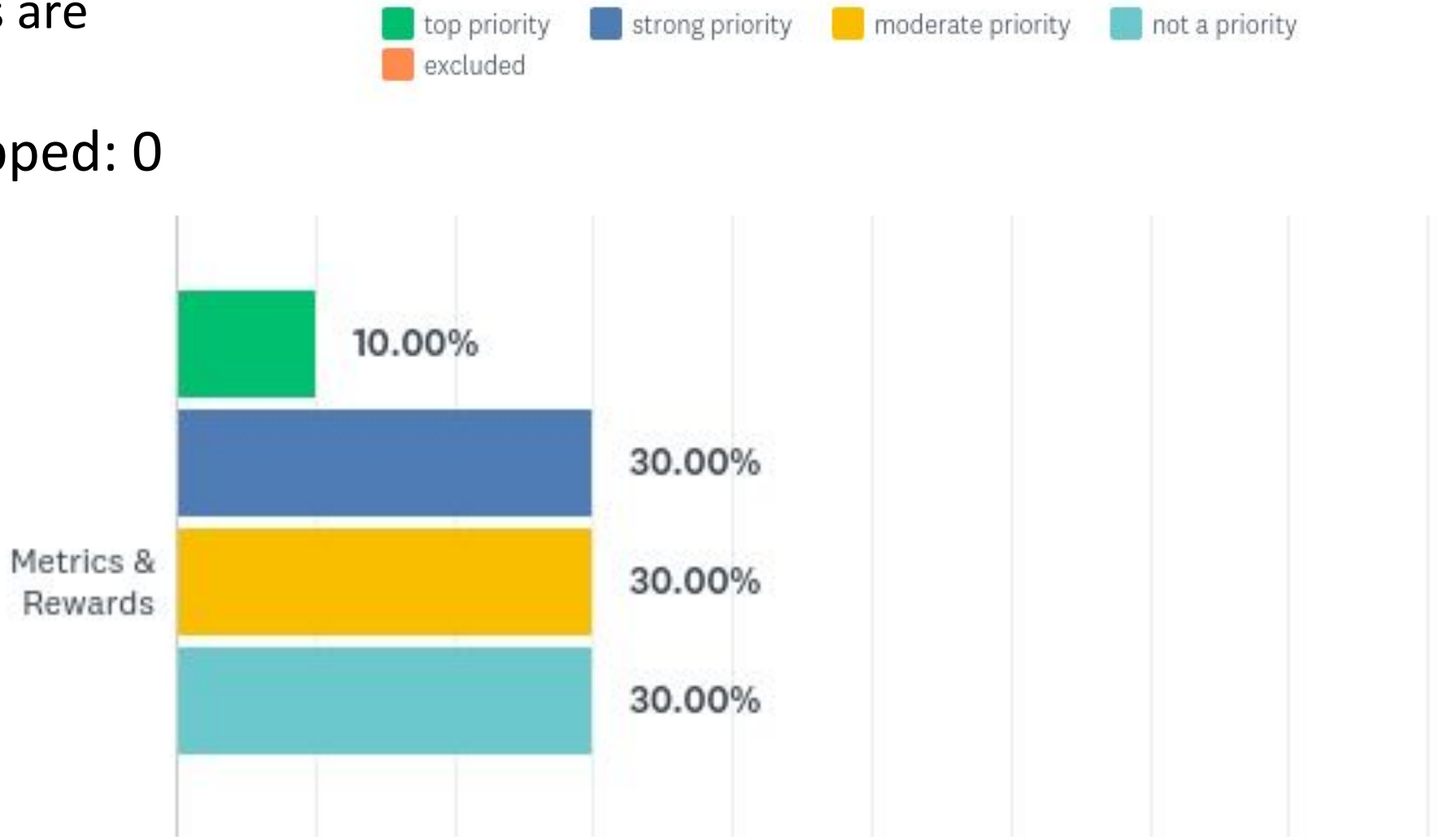

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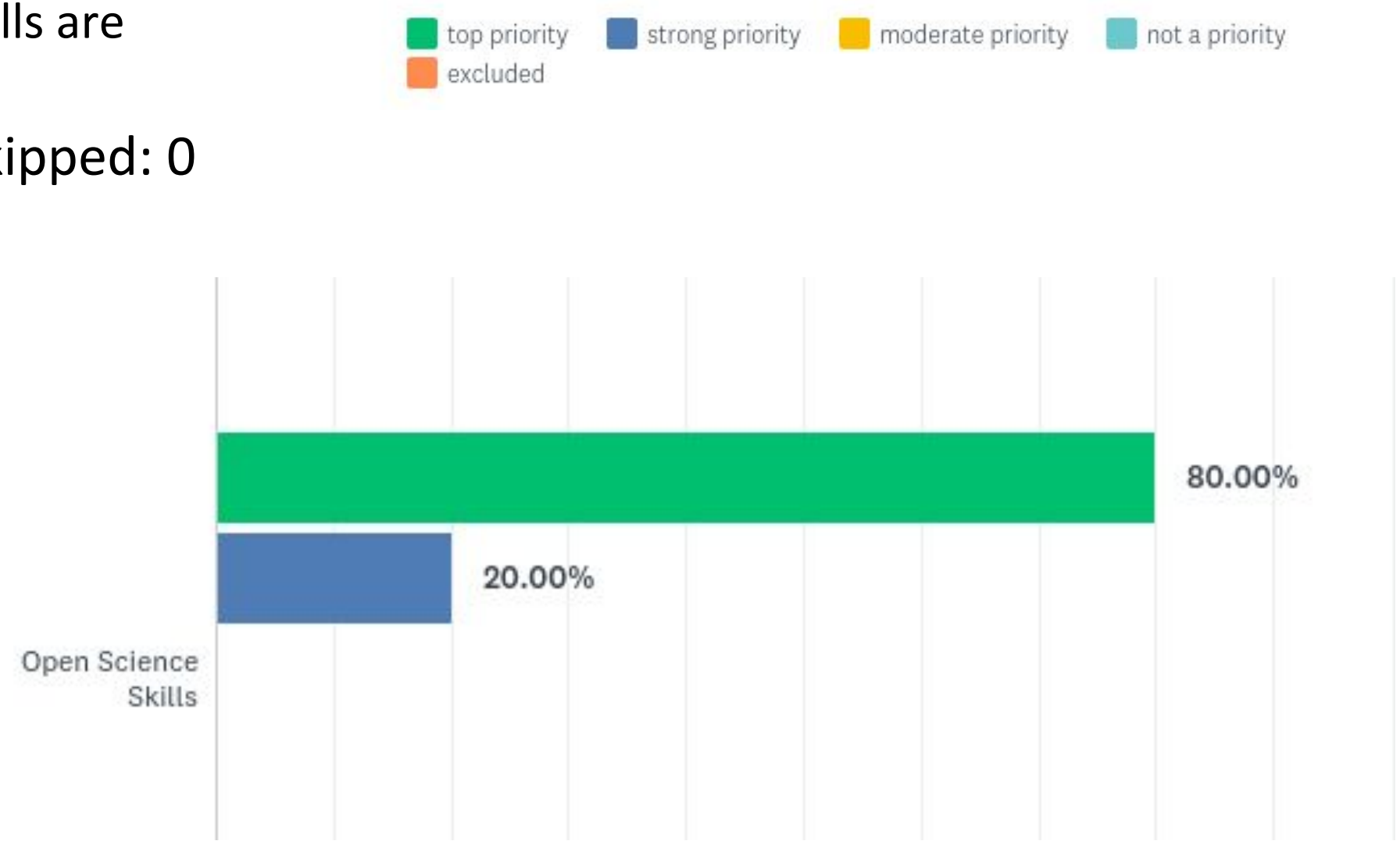

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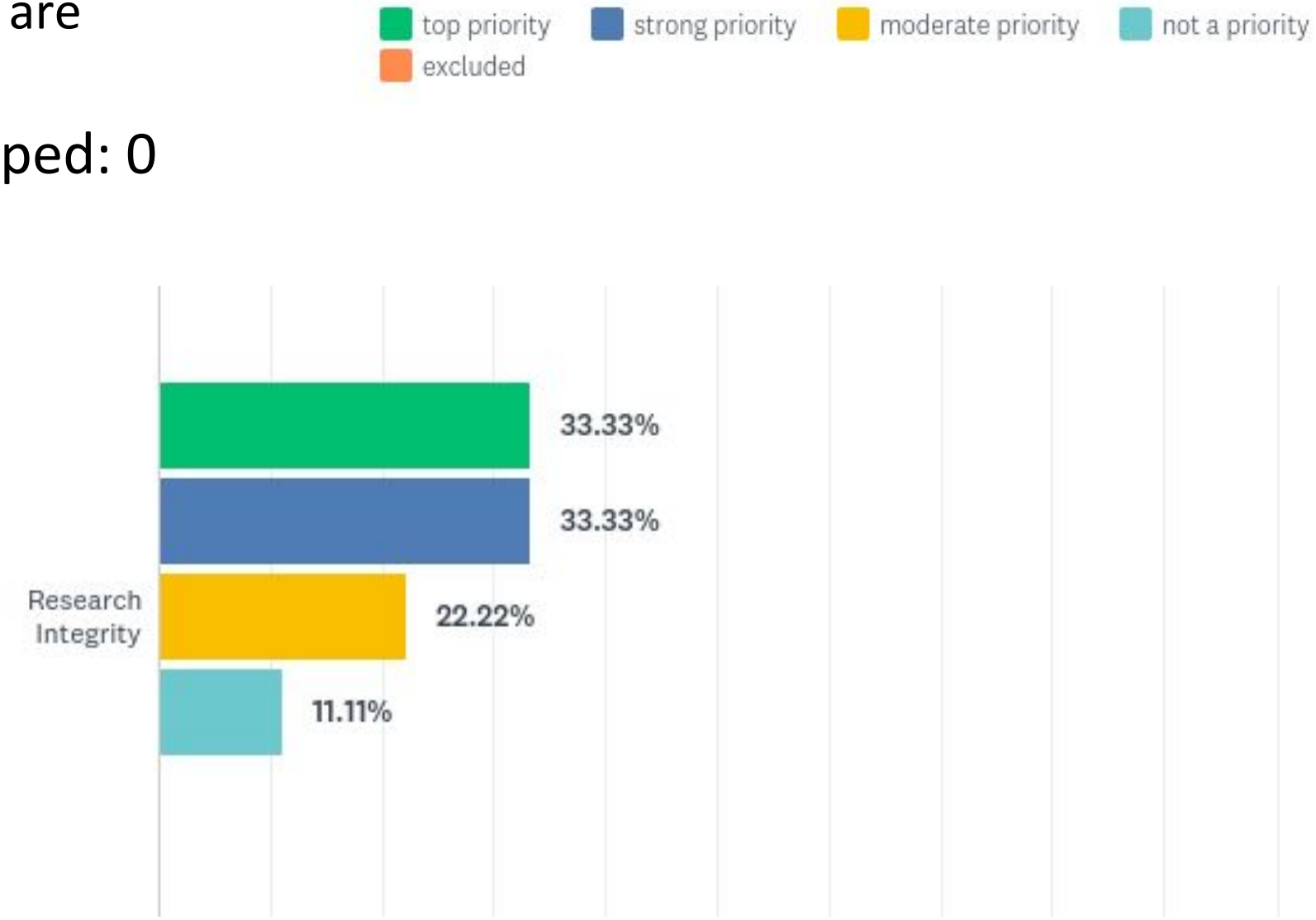

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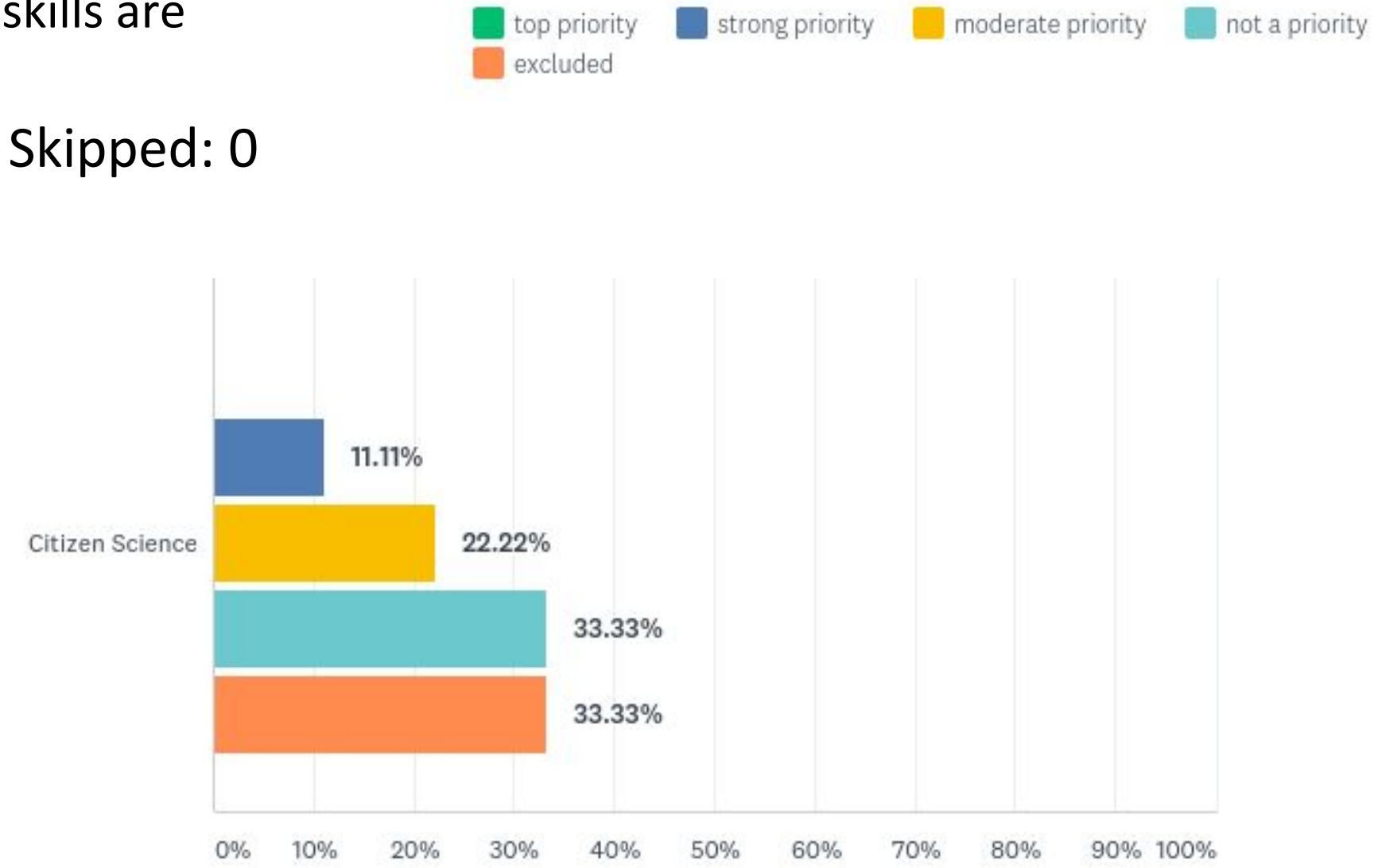


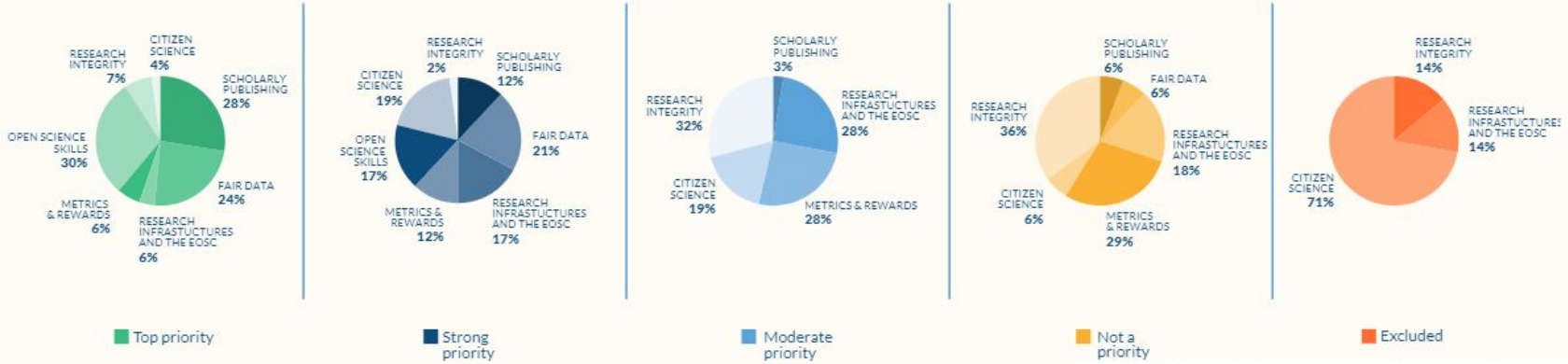
Topics and priorities

The topic, goal and level of training activities is quite varied. Many training efforts focus on Open Science skills in general, while topics such as scholarly publishing skills and FAIR data are also popular. Each respondent was able to provide several choices.

The lowest priorities are generally linked to the training calendar and a progressive skilling programme (Citizen Science, ethics). Some other skills are excluded when handled by other services than the library (data visualisation) or because of the lack of specialised trainers in the country.

Partnerships with external instructors and networks such as Carpentries, FOSTER Plus, EOSC skills or SSHOC Open Marketplace, help widen the scope. Citizen Science skills training for example benefits from co-organised workshops or from participating in local or European projects.

Some cases divide the skilling programmes between basic / advanced / expert levels. "Basic" skills for all staff implies that all library staff and research support staff will be trained in at least the most common aspects of Openness knowledge and culture. This becomes harder with training all newcomers in the research field, but early-career researchers are trained mostly through the PhD training — delivered by or with the library staff training services in all cases. Training newcomers is, however, sometimes achieved and training is conducted systematically at some institutions.



libereurope.eu

Ligue des Bibliothèques Européennes de Recherche
Association of European Research Libraries

Swiatek, Cécile, McCaffrey, Ciara, Meyer, Thorsten, Svenbro, Anna, Brinken, Helene, Egerton, Frank, … Clavel, Karin. (2020). LIBER Open Science Training Methods and Practices Across European Research Libraries - Survey Analysis. http://doi.org/10.5281/zenodo.3903142

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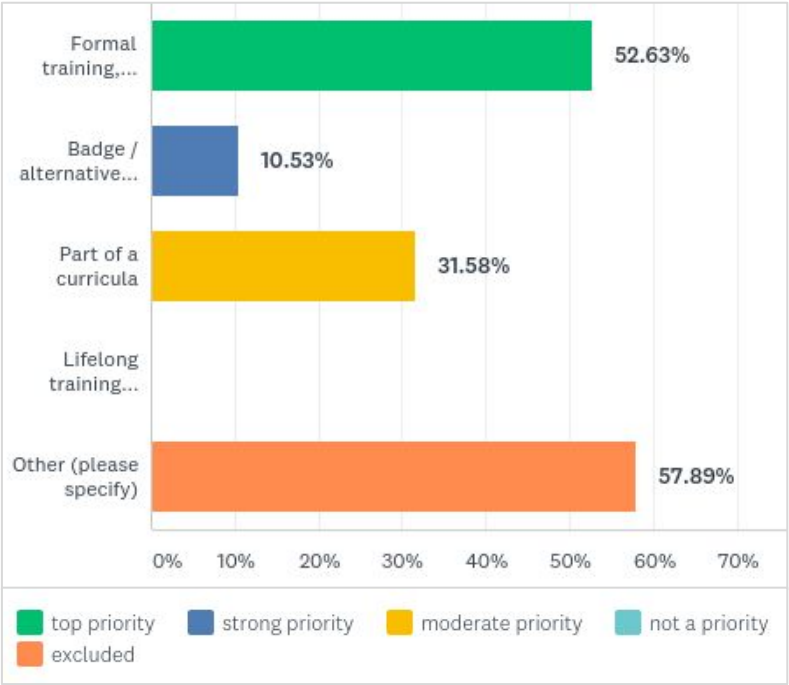
Major outputs 3/3:
Benefits and Rewards are an issue

Formal recognition

ANSWER CHOICES	RESPONSES	
Formal training, certificate of attendance	52.63%	10
Badge / alternative recognition	10.53%	2
Part of a curricula	31.58%	6
Lifelong training certificate	0.00%	0
Other (please specify)	57.89%	11
Total Respondents: 19		



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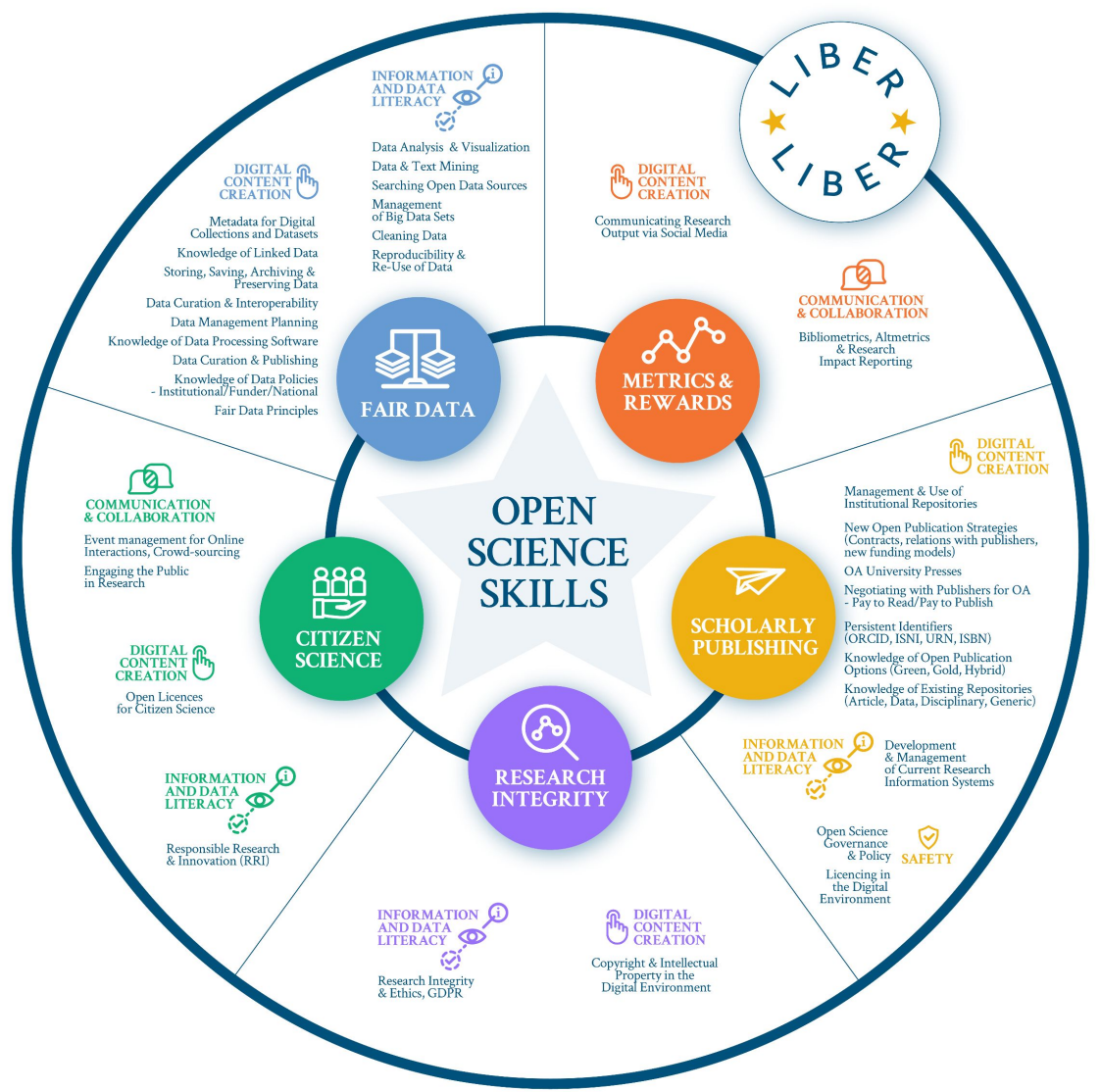


LIBER visualisation diagram
https://doi.org/10.5281/zenodo.3702400

Method on how the visualisation was developed + Open Sciecne Conference Poster (Berlin, 2020)
https://libereurope.eu/blog/2020/03/10/open-science-skills-diagram/

LIBER Open science skills

Skills list… started on a spreadsheet.

Three classes of skills:

- Discipline specific knowledge (DSK)
- Generic skills (GS)
- Personal competencies (PC)

Two skills levels:

1. Awareness & broad understanding
2. Indepth knowlege

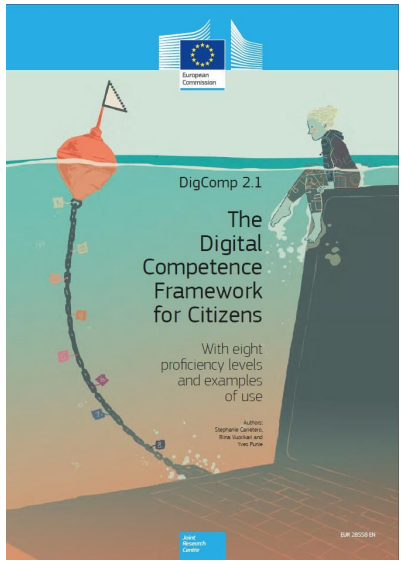
Type : DSK, GS, PC	Skills Level 1: awareness & broad understanding	Skills Level 2: indepth knowledge	For Library Staff	For Researchers
DSK	*Scholarly communication / Open Access Publishing*		✓	✓
DSK		OA policies - institutional/funder/national	✓	✓
DSK		Development and management of current research information systems	✓	
DSK		Institutional repositories	✓	✓
DSK		e-research methods	✓	✓
DSK		Knowledge on Open Publication options (green, gold, hybrid)	✓	✓
DSK		New open publication strategies (contracts, relations with publishers, new funding models	✓	✓
DSK		Licensing, Copyright and Intellectual property in the digital environment	✓	✓
DSK		Bibliometrics and research impact reporting	✓	✓
DSK		OA Advocacy	✓	

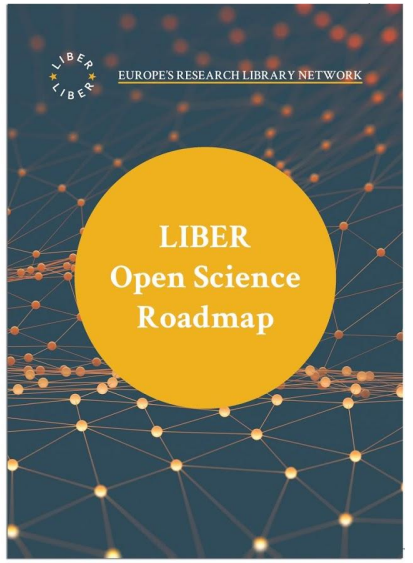
LIBER Open science skills

Existing frameworks

DigComp from European Commission
LIBER OS Roadmap
JISC

Foster+ Open Science Learning (Taxonomy poster + https://zenodo.org/record/1308131
“Let's build the skills !” LIBER Digital Skills WG 2018 Workshop)





Zotero Library https://www.zotero.org/groups/2340674/liber_digital_skills_for_open_science/library

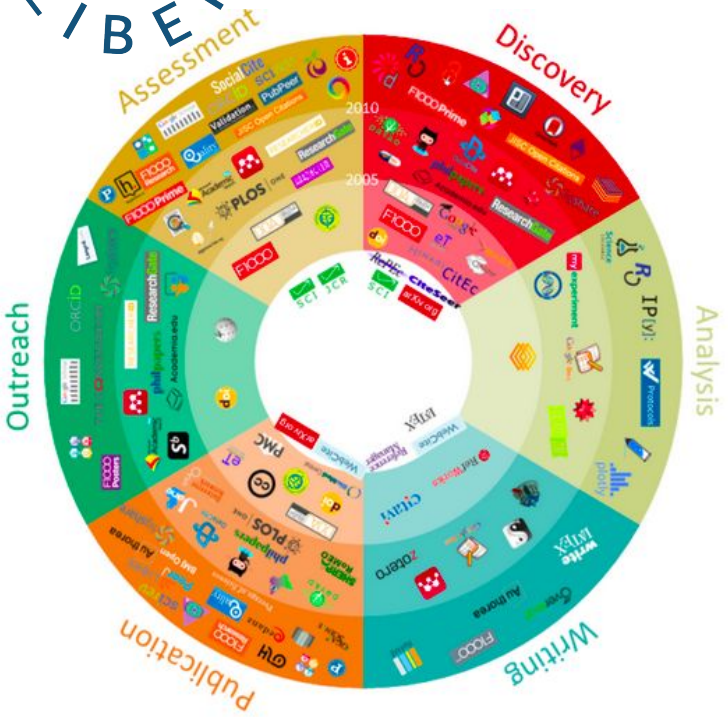
LIBER Open science skills

Skills list in context of existing frameworks

Mapping the skills list with existing frameworks

Dimension 1: Competence Area Dig. Comp. 2.0	Area	Competence	Maps to OS roadmap
3. Digital content creation	**Digital collections management**	Creation and management of metadata records	Scholarly publishing/content creation
3. Digital content creation	**Digital collections management**	Digital curation	Scholarly publishing/content creation
3. Digital content creation	**Digital collections management**	Creation of an online exhibition of a special collection or archive	Scholarly publishing/content creation
4. Safety	**Computer literacy**	XX	?
3. Digital content creation	**Digital collections management**	Database development and management	?
3. Digital content creation	**Digital collections management**	Digitization, digital library architecture and software	Scholarly publishing/content creation
1. Information and data literacy	**Coding and standards**	Technical standards, quality standards	Scholarly publishing/content creation
1. Information and data literacy	**Coding and standards**	Web mark-up languages such as HTML, XML	Scholarly publishing/content creation
2. Communication and collaboration	**Communication**	Web development and design	Scholarly publishing/content creation
3. Digital content creation	**Open Access policies**	Knowledge of OA policies - institutional/funder/national	Open science skills
1. Information and data literacy	**Research assessment**	Development and management of current research information systems	Scholarly publishing
3. Digital content creation	**Open Access infrastructures**	Institutional repositories	Scholarly publishing
1. Information and data literacy	**Research methods**	e-research methods	??
3. Digital content creation	**Open Access**	Knowledge on Open Publication options (green, gold, hybrid)	Scholarly publishing
3. Digital content creation	**Open Access**	New open publication strategies (contracts, relations with publishers, new funding models	Scholarly publishing
4. Safety	**IPR**	Licensing in the digital environment	Scholarly publishing
4. Safety	**IPR**	Copyright and Intellectual property in the digital environment	Research integrity

LIBER Open science skills

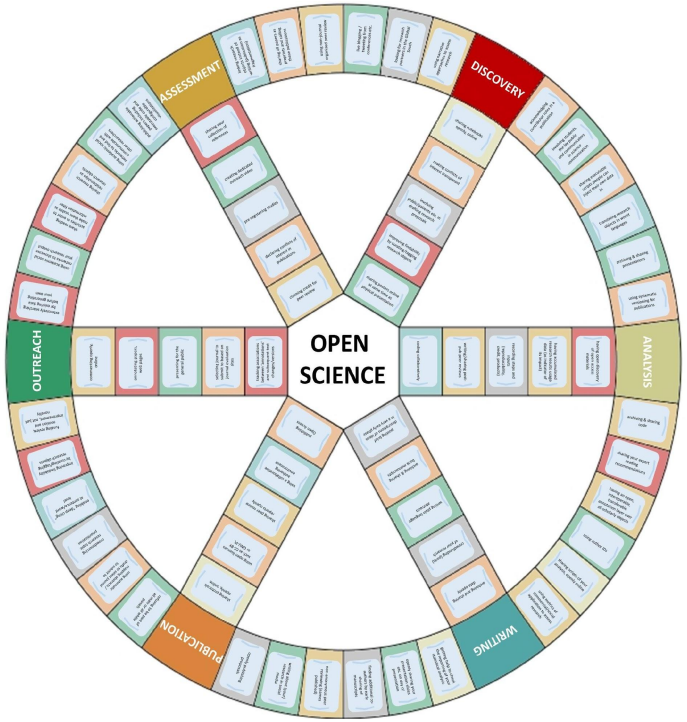


Innovations in scholarly communication

Bianca Kramer b.m.r.kramer@uu.nl | @MsPhelps Jeroen Bosman j.bosman@uu.nl | @jeroenbosman

Utrecht University Library

https://101innovations.wordpress.com/

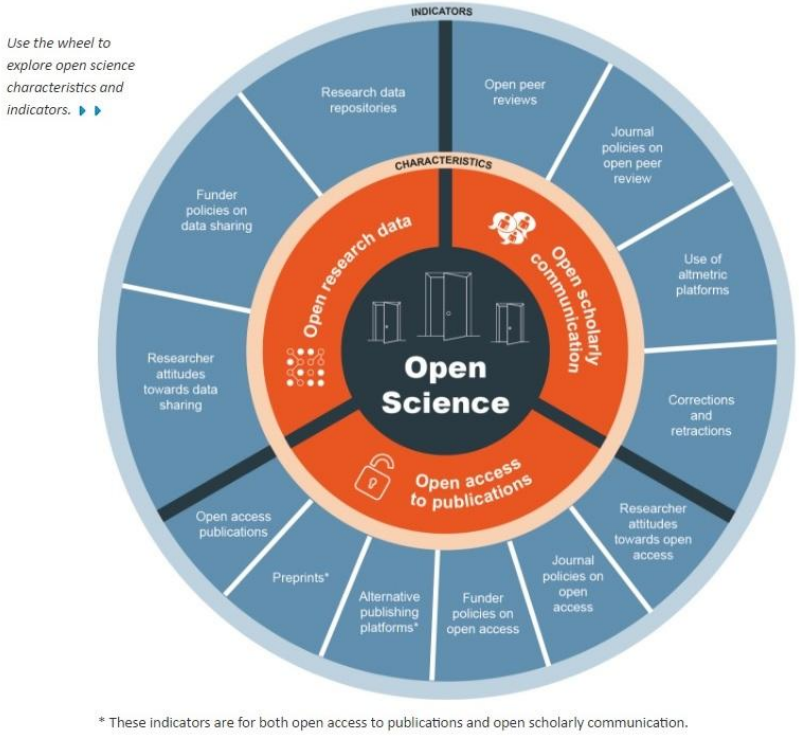


Wheel of Open Science practices

Bianca Kramer & Jeroen Bosman

"Innovations in Scholarly Communication" project

https://doi.org/10.6084/m9.figshare.4628014.v2



Open Science Wheel

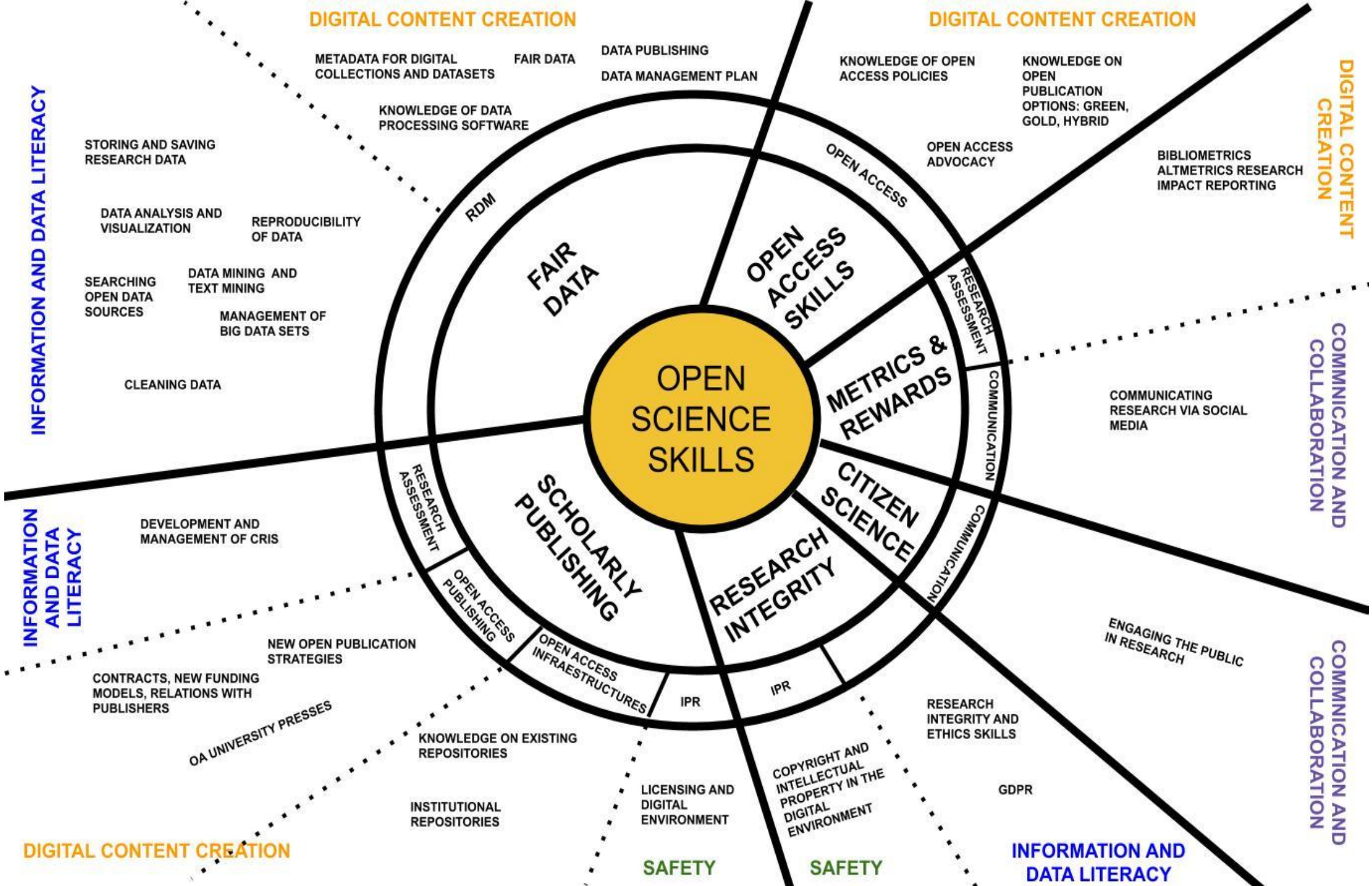
European Commission

Open Science monitor (2015)

LIBER Open science skills

Focus on Open science skills

Type	Dimension 1: Competence Area Dig. Comp. 2.0	Area	Maps to OS roadmap	Competence
DSK	1. Information and data literacy	Research data management	FAIR data	Storing & saving research data
DSK	3. Digital content creation	Research data management	FAIR data	Metadata for digital collections & datasets
DSK	3. Digital content creation	Research data management	FAIR data	Data publishing
DSK	1. Information and data literacy		FAIR data	Data analysis & visualization
DSK	1. Information and data literacy		FAIR data	Management of big data sets
DSK	1. Information and data literacy		FAIR data	Reproducibility of data
DSK	1. Information and data literacy		FAIR data	Data mining/text mining
DSK	3. Digital content creation		FAIR data	Data Management Planning
DSK	3. Digital content creation		FAIR data	FAIR data
DSK	1. Information and data literacy		FAIR data	Searching open data sources
DSK	1. Information and data literacy		FAIR data	Cleaning data
DSK	3. Digital content creation		FAIR data	Knowledge of data processing software
DSK	3. Digital content creation	Research assessment	Metrics & rewards	Bibliometrics, altmetrics and research impact reporting
DSK	2. Communication and collaboration	Communication	Metrics & rewards	Communicating research output via social media
DSK	3. Digital content creation	Open Access policies	Scholarly publishing	Knowledge of OA policies - institutional/funder/national
DSK	3. Digital content creation	Open Access	Open access skills	OA Advocacy
DSK	3. Digital content creation	Open Access infrastructures	Scholarly publishing	Knowledge on existing repositories
DSK	4. Safety	IPR	Research integrity	Copyright and Intellectual property in the digital environment
DSK	1. Information and data literacy		Research integrity	Research integrity and ethics skills, GDPR
DSK	1. Information and data literacy	Research assessment	Scholarly publishing	Development and management of current research information systems
DSK	3. Digital content creation	Open Access infrastructures	Scholarly publishing	Institutional repositories
DSK	3. Digital content creation	Open Access	Open access skills	Knowledge on Open Publication options (green, gold, hybrid)
DSK	3. Digital content creation	Open Access	Scholarly publishing	New open publication strategies (contracts, relations with publishers, new funding models
	4. Safety	IPR	Scholarly publishing	Licensing in the digital environment
DSK	3. Digital content creation	Open Access publishing	Scholarly publishing	OA University Presses
DSK	3. Digital content creation	Open Access	Scholarly publishing	Negotiating with publishers for OA - Pay to read/Pay to publish



Draft - Created by LIBER Digital Skills WG, 2019 – visualiation by Clara Riera Quinteros

LIBER Open science skills

LIBER visualisation diagram
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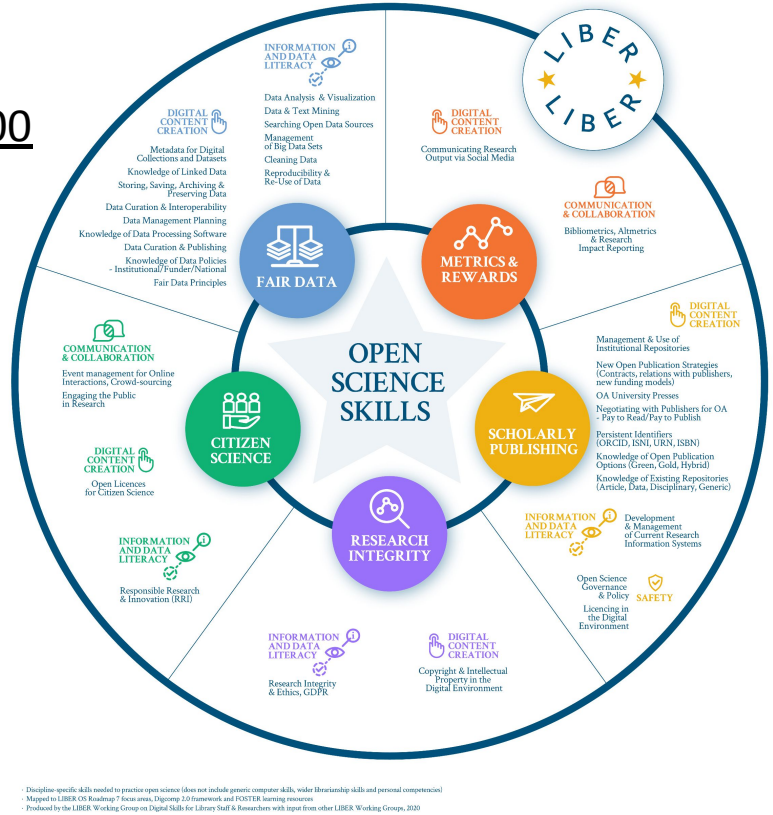

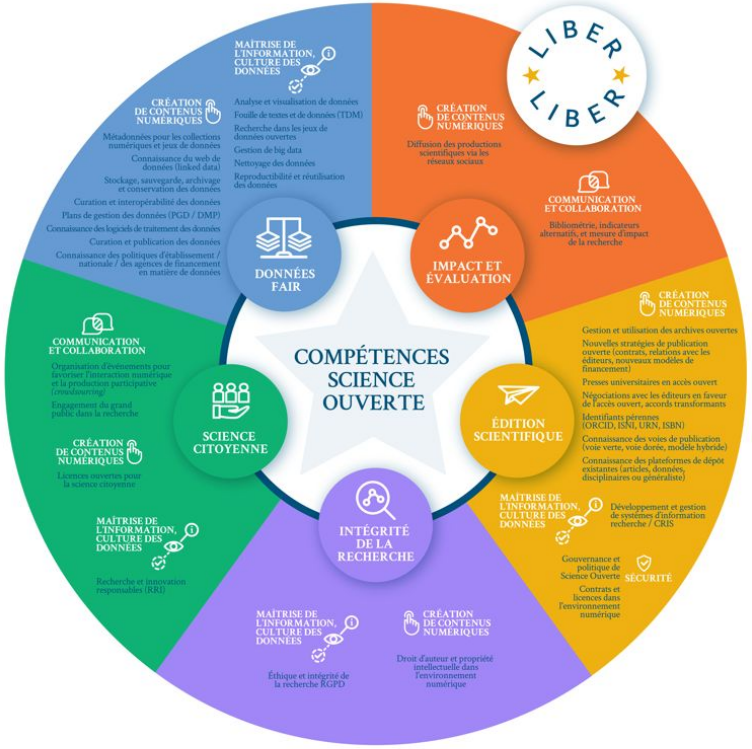

The visualisation is available in the English and French languages.
The French translation was provided by Cécile Swiatek, Marlene Delhaye and Christophe Pion.
The visualisation is licenced for reuse.

LIBER Open science skills

Digital skills useful references
https://www.zotero.org/groups/2340674/liber_digital_skills_for_open_science/library

And other material

LIBER Open science skills

Digital skills useful references
https://www.zotero.org/groups/2340674/liber_digital_skills_for_open_science/library

Webinars on Digital skills for Open Science training, with Partners (EOSC, FOSTER+, SSHOC)

- https://libereurope.eu/blog/2018/12/14/webinar-recording-openscience-eosc-skills/
- https://libereurope.eu/blog/2020/02/10/webinar-video-use-cases-for-responsible-research-innovation-rri/
- https://libereurope.eu/blog/2020/08/03/webinar-video-open-science-skilling-training-programmes-across-europe/

LIBER Open science skills

- Webinars podcats,
- BlogPosts,
- Poster (https://doi.org/10.5281/zenodo.3702248),
- Interviews (https://www.zbw-mediatalk.eu/2020/09/open-science-training-how-to-implement-methods-and-practices-in-european-research-libraries/),
- Articles (soon in https://www.mitpressjournals.org/loi/dint
  Swiatek, C., Kalaitzi, V., "Research and Academic Libraries leading Open science skills training". *Data Intelligence* 2641-435X),
- Presentations (https://www.zbw-mediatalk.eu/2020/08/liber-2020-online-building-trust-with-research-libraries/)
- Participating in other workshops (FAIRsFAIR / EUA workshop at LIBER 2020 *Integrate FAIR Data science competences in higher education curricula: the role of academic and research libraries* https://doi.org/10.5281/zenodo.3906055 / https://youtu.be/WyCgY24NN1Y / https://www.fairsfair.eu/articles-publications/integrating-fair-data-science-competences-higher-education-curricula-role)….

LIBER Open science skills

Dissemination is time consuming but really worth it !

Make your work live, and share it with others,
exchange ideas and practice, and
reuse it all !

How can I follow the news?

How can I follow LIBER events?

How can I join LIBER and become an active WG member?

https://libereurope.eu/

Thank you