OPEN SCIENCE SKILLING AND TRAINING INITIATIVES IN EUROPE

FRANCE

Interview with The Open Science Committee - Comité pour la Science Ouverte - France, Ministry of Higher Education, Research and Innovation

Website

Email: coso@recherche.gouv.fr

How did your Open Science skilling initiative begin?

The French government's commitment to building an Open Science ecosystem was reflected in the creation of the National Open Science Plan (PNSO), presented by Frédérique Vidal, Minister of Higher Education, Research and Innovation, on 4th July 2018.

The Plan is composed of three axes and nine measures that place French research at the heart of the global movement to open up data and make public action transparent:

- First axis: generalize Open Access to publications.
- Second axis: structuring and opening research data.
- Third axis: to be part of a sustainable European and international dynamic.

The PNSO makes Open Access mandatory for publications and project-funded research data. It sets up the Open Science Committee (CoSO) whose mission is to define an Open Science policy, to ensure its development at the national and international levels, and to coordinate its implementation at the level of scientific institutions and communities.

Please describe the context and aims of the initiative.

The Open Science Committee is divided into four sub-committees: *Publications*, *Research Data*, *Skills and Training*, *Europe and International*.

The sub-committees are intended to represent the diversity of disciplines and professions in higher education and research in France.

The sub-committee *Skills and Training* is a place for exchanges (meetings, video conferences), allowing the exchange of information, experiences and views. The sub-committee pilots ensure the good coordination of members, forums and groups. They ensure consistency with other sub-committees and working groups.

The sub-committee's objectives are to identify skills needs and stimulate actions that promote Open Science in general or coordinate those that could become a training model at the national level.

How is the initiative managed and coordinated?

The sub-committee *Skills and Training* is co-piloted. Within the sub-committee there are several working groups depending on the actions carried out. The co-pilots attend monthly meetings of the Secretariat for Open Science (SPSO) which brings together the pilots of all the sub-committees and working groups.

Reporting on the actions carried out is done according to the project calendar. The Secretariat for Open Science meetings are also an opportunity to present international initiatives or to present actions that require validation by all the co-pilots.

Who are your target audiences?

Our target audiences are Researchers, PhD students, Librarians and Research support staff from all disciplines.

Which skills are prioritised?

Top priority:

- Sharing a better knowledge of the topics included in Open Science. For the moment, most of the time, institutions are very focused on Open Access.
- Developing a better and shared understanding of Open Science (open reproducible research, open evaluation, open data, etc.) within the universities and research institutions is a key objective.
- We also should work on cultural barriers that prevent people from getting trained ("It's not for me, it's too technical", "I'm not a geek, therefore I'm not able to learn things on topics such as control version" etc.).
- We should raise awareness on the fact that training activities do have a political dimension. It's already a great step to offer ad hoc training sessions, but it's even better if we could make it really inclusive.
- For a couple of decades and dizzying technical changes, it has become more and more difficult to know which skills and tools are valuable when you didn't receive any formal training. Without a deep understanding of technical stakes, it's very hard to build an individual strategy. Therefore, we should build tools to help end-users to be proactive and agile. We'd like to share a vision built on skills and not on tools.

Strong priority:

- Fostering a cultural change by sharing good practices and supporting the emergency of "cultural brokers" (i.e. people with a set of skills that help them to collaborate with various groups of actors).
- We strive to put the emphasize not only on hard skills but also (and maybe, mostly) on soft skills. For instance, we strive to reply to the following question: "What does it take to be an efficient Open Science ambassador?". It's a long-term goal.

- As legal topics play a major role, we strive to tackle the issue of technical content with methods such as legal design.
- We strive to offer "train the trainer" materials: training sessions in partnership with local actors and guides.

Low priority:

- One thing that the college doesn't do is to provide training sessions to end-users.

Why did you prioritise some skills and exclude others?

We want to train the trainer, therefore we are very interested in methods such as legal design. The key stake for us is: how could we help people - including researchers - to help researchers? Legal issues are identified as a strategic topic.

Which channels and learning types are used?

The Open Science Committee support projects such as:

- DoRANum (Données de la Recherche : Apprentissage Numérique), a platform dedicated to research data, in partnership with the French National Centre for Scientific Research (CNRS) and the scientific interest group - Regional Unit for Scientific and Technical Information Network.
- A MOOC on reproducible research, in partnership with the National Institute for Research in Digital Science and Technology (Inria).
- Training courses on reproductible research, in partnership with the National Institute for Research in Digital Science and Technology: hackathons, 10 years challenge, courses, and workshop. The training sessions are delivered in partnership with a local partner, the Regional Unit for Scientific and Technical Information from Bordeaux.

The two projects on reproducible research are led by two senior researchers from the National Institute for Research in Digital Science and Technology.

The target audiences of the three projects are PhD students, Researchers, other Scientific staff from all disciplines.

The Open Science Committee doesn't directly deliver training sessions, except if there is a partnership with a local instance. Its main purpose is to coordinate and support initiatives from universities and research institutions at the national level. At a local level, the main providers of training sessions are the doctoral schools, the libraries, units dedicated to continuing education for the staff members, networks such as the Regional Units for Scientific and Technical Information Network.

Which formats are used?

Guidelines, web sites, workshops.

Is there formal recognition?

There is some ongoing work on this topic. In order to improve the value of existing training offered in the local area (universities, libraries, research institutions and professional networks), a group from the sub-committee *Skills and Training* is working on setting up

a label for Open Science training courses to create an Open Science certification for postgraduate schools. This project targets training units and trainers, not end-users such as PhD students.

What impact do you expect from this initiative?

The participants get know-how about Open Science tools and practices. They get information about how they can comply with their funders' requirements. They address challenges and we try to give solutions to those. They are more familiar with Open Science related activities.

How do you plan to keep the trainees up-to-date with these skills?

We rely on local partners.

How do you train the trainers?

- By providing guidelines. For instance, there will be a translation sprint planned to produce the French version of the Foster Open Science handbook.
- By learning to organise more collaborative events such as hackathons, sprints and contests.

The National School of Information and Library Sciences (École Nationale Supérieure des Sciences de l'information et des Bibliothèques) sets up training sessions about Open Science in initial and continued education through the axis of *Open Science and Data*.

How do you recruit the trainers?

We don't hire trainers but several members of the college are trainers. Thus, we can share knowledge on Open Science practices and needs.

What have you learnt so far?

- Transversal management with the actors of the different institutions is not easy. The members of the Open Science Committee have a "volunteer status". The PHD students and young researchers are to be highlighted.
- There is a need to quickly increase the skills of library and information services (LIS) professionals and librarians who are the main Open Access trainers.
- We need to get better at delivering more targeted information. Information specialists and researchers do not have the same expectations and landmarks. We should pay more attention to vocabulary issues when we produce guidelines. Even researchers with high technical skills can miss the point if we don't adopt the right approach. We should more systematically ask ourselves: what do researchers value? What are the stakes for them? What could bolster their need to adopt different practices?

What's next on your skilling/training calendar?

Ongoing projects :

- The making of a MOOC dedicated to Open science. We do know that such resources already exist but there is a need to adapt the content to the French environment.
- The making of a vademecum about Open Science for PhD students: the aim is to help PhD students from all disciplines to know what Open Science is and to identify the main priorities in their field from this perspective. The project is driven at a national level.

What about the budget and costs?

	ACTION	FUNDER	AMOUNT
2019	Training resources on reproducible research, in partnership with Inria (National Institute for Research in Digital Science and Technology) Training resources on research data (Dora-num platform)	Ministry of Higher Education, Research and Innovation	140K €
	National Open Science Conferences	Ministry of Higher Education, Research and Innovation	50K €
	A vademecum about Open Science for PhD students (ongoing project)	Ministry of Higher Education, Research and Innovation	40K €
	External communication tools: website ouvrirlascience.fr	Ministry of Higher Education, Research and Innovation	10K €
2020	Open Science MOOC		140K €
	National Open Science Conferences	Ministry of Higher Education, Research and Innovation	50K €
	External communication tools: website ouvrirlascience.fr	Ministry of Higher Education, Research and Innovation	10K €
Total amount for 2019 and 2020			***440K €***

Which challenges have you encountered?

How to deal with institutional points of view and end-user's aspirations.

What would you tell others looking to do a similar program?

Keep track of the "real world" and cultural issues.

The professional identity of a researcher remains built on the notion of expertise. But with the changes brought by the Open Science paradigm, we all know that the researcher's "ethos" is going to change. The so-called reproducibility crisis offered stunning examples of failures not caused by a lack of honesty but by a need for methodological improvement. Failing to replicate is not the issue: the issue is not to try to replicate as it was said during the last Munin conference (Klevjer 2019). But to achieve this goal, researchers need to

practice these new ways to do science in a more secure environment. But it's a hard road due to the evaluation criterions applied.

Added to this, gender issues shouldn't be ignored. As there is a growing need for high technical skills, we should consider that the starting point is not the same gender-wise.

Changes brought by Open Science should also be an opportunity to think about empowerment.

Help people to enjoy working on Open Science.

All of us have loads and loads of duties. And shifting towards new practices needs time and effort. In this context, we have to offer people enjoyable moments such as hackathons, workshops, sprints, contests, etc.

Raise awareness among principal investigators (PIs) and senior researchers that training is not only a PhD student's topic.

When you are supposed to be an expert, it's not an easy thing to accept getting formal training. During technical training, failure is visible by all attendees and it's not that easy to deal with it.

Very often, debates about trainings focus on PhD students. But we have to convince PI and other senior researchers that it's a global change and that they also have to move onto new practices. Most of the time, training remains informal between researchers, but this method has many limits and is not inclusive enough: what about people without a good network of mentors?

Be patient.

There are many technical issues, but cultural issues need time to be taken into account.

Have you seen any impact of your initiative so far?

For the moment, we had several opportunities to reinforce the link with stakeholders from various institutions.

Which resources helped you to develop this initiative?

References:

Klevjer, Kristoffer. 2019. 'On the Wonders of Replication'. presented at the The 14th Munin Conference on Scholarly Publishing 2019, The Arctic University of Norway, October 1.

Tools:

- DMP Opidor: this platform gathers at the national level training opportunities and educational resources on data management and Open Science in a more general way.
- DoRANum: a platform dedicated to research data, in partnership with the French National Centre for Scientific Research (CNRS) and the scientific interest group - Regional Unit for Scientific and Technical Information Network.

Partnerships:

- Foster Open Science
- OpenAire
- European Commission

This case study has been produced by LIBER's Digital Skills for Library Staff & Researchers Working Group. For more case studies, and the original version of this one, please see: https://doi.org/10.5281/zenodo.3701370

2020